ZETTLER

Medicall 800

User Manual

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1 Guide to this manual

1.1 Signal words and symbols

Signal words and symbols are used in this manual to alert you to warnings, information and instructions (see table 1).

Key word	Symbol	Explanation
DANGER		Warning. Imminent danger. Death or serious injury if ignored.
WARNING		Warning. Potentially dangerous situation. Possible death or serious injury if ignored.
CAUTION		Warning. Potentially dangerous situation. Possible light or minor injuries if ignored.
NOTICE		Note. Potentially dangerous situation. Possible material damage if ignored.
		Helpful information.

Table 1: Signal words and symbols in this manual

1.2 About this document

WARNING

If you do not follow the information in this document, you could make mistakes when using Medicall 800. This could mean that calls from patients remain unanswered and patients could be put at risk. Operation of the call system may be disrupted.

Pay attention to the information in this document. Keep the document in a safe place. Pass it on to other users if necessary.

This user guide describes how to operate the components of a Medicall 800 system. The settings on your system may differ from the settings described here.

This user guide is intended for the following groups:

- nursing staff in hospitals, spa and rehabilitation clinics, retirement and nursing homes
- service personnel

2 Safety information

Keep a safe distance

Be sure to keep CB radios, PMR radios and mobile phones a safe distance away from components of Medicall 800 at various frequencies:

- 150 kHz to 80 MHz (CB radio)
  0.01 W 0.12 m, 0.1 W 0.37 m, 1 W 1.17 m, 10 W 3.69 m, 100 W 11.67 m
- 80 to 800 MHz (PMR radio)
  0.01 W 0.04 m, 0.1 W 0.11 m, 1 W 0.35 m, 10 W 1.11 m, 100 W 3.50 m
- 800 MHz to 2.5 GHz (mobile phones)
  0.01 W 0.07 m, 0.1 W 0.22 m, 1 W 0.70 m, 10 W 2.21 m, 100 W 7.00 m

If you do not keep a safe distance, this may interfere with the components of Medicall 800 and cause them not to work properly.

Volume of acoustic call forwarding

One of the ways that calls are signalled is by acoustic call forwarding in rooms with a set presence. The acoustic pressure at a distance of 2 m is between 45 and 65 dBA.

Systems with uninterruptible power supply

Systems compliant with DIN VDE 0834 need a power source for safety purposes. If the normal power supply fails, this power source takes over the supply and keeps the system going for at least an hour. This means that calls can continue to be made and processed.

Articles treated with biocidal products

Some plastic parts that are used are classed as articles treated with biocidal products as defined in the EU Biocides Regulation 528/2012. A biocidal product is added to them during manufacture in order to restrict the proliferation of bacteria on the surface. This does not entail any particular precautionary measures or instructions for use for these components.

The following are used as a biocidal product:

- Silver ions
  - Communication terminal Touch
  - Room electronics with RFID (housing), traffic white, 130.1305
  - Patient's handsets, traffic white, 127.xxxx
  - Call panel, presence panel, sockets (VL Flat), traffic white, 127.xxxx
- Zinc pyrithione
  - Communication terminal Touch (keypad)
  - Room electronics with RFID (keypad), traffic white, 130.1305

3 General information

Medicall 800

Medicall 800 is a fully electronic care and communications system that conforms to the very latest standards and requirements (DIN VDE 0834) and offers a high level of safety.

The monitoring functions integrated into the system ensure that any faults that occur are signalled immediately and can be quickly rectified. They also ensure that the other parts of the system are not affected by this fault and can continue to work reliably.

Calls are signalled in a variety of ways:

- On overdoor lights and station lights.
- By acoustic call forwarding.
- In clear text on various display devices ("displays") in rooms and corridors. This allows the patient calling to be quickly located.

If necessary, a station can be divided into care groups or interconnected with other stations. You can easily change the interconnections at the answer stations. This means that the system can be adapted to the requirements prevailing at any particular time.

Components with and without speech

In Medicall 800 there are components with and without speech.

In components without speech you can store calls from the displays before locating the patient. The stored room is then specially identified by means of the room signal light.

In components with speech, you can speak to the patient and ask what he needs before going to find him. This saves many unnecessary journeys. Here too, you can identify the particular room by "storing" it.

Components with speech also have the following functions:

- Announcement to all or to particular rooms
- Speak to nursing staff ("speak to presence")
- Speak to rooms or beds without presence

4 Presence

WARNING
Set the presence conscientiously so that the call system can function properly.
Patients could otherwise be put at risk.

You can set your presence in a number of ways (see figures 1, 2, 3).

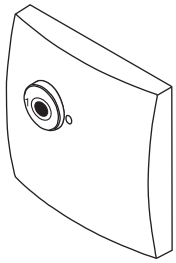


Fig. 1: Presence button

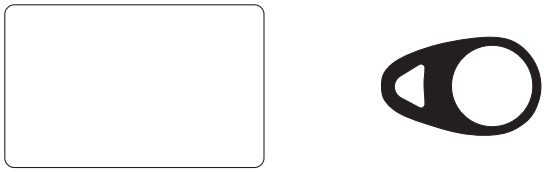


Fig. 2: RFID tags (for room components with RFID)

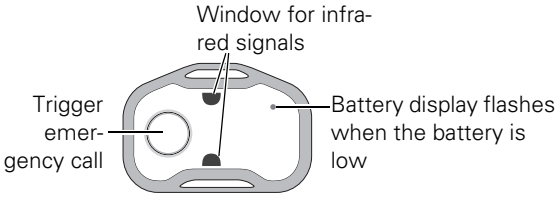


Fig. 3: IR transmitter (for use with IR sensors)

How to set the presence with the presence button

1 Press the presence button when entering a room:
   – Presence 1, green:
   – Presence 2, yellow:

   If you do not know which presence category applies to you, find this out.

   Many systems only have presence 1.
2 Press your presence button again when leaving the room in order to cancel presence again.

How to set the presence with an RFID tag

1 Hold the RFID tag a few centimetres away from the room component with RFID.

   Medicall 800 sets your presence 1 or 2 depending on your RFID tag. An acoustic signal indicates with 1 tone that the presence has been set.
2 When leaving the room, hold your RFID tag in front of the room component with RFID again in order to cancel the presence.

   An acoustic signal indicates with 2 tones that the presence has been cancelled.

How to set the presence with an IR transmitter

1 Fasten the IR transmitter as high as possible, e.g. on the collar or a breast pocket of your clothing. Make sure that the IR transmitter is not hidden.
2 Enter a room with an IR sensor.

   Medicall 800 sets your presence 1 or 2 automatically depending on your IR transmitter. You do not need to press any button.
3 Leave the room again.

   Medicall 800 cancels the presence automatically if no other presence is registered in the room.

Switching the presence on has the following effects:

- You can process calls at an answer station.
- The green (presence 1) or yellow (presence 2) presence lamp in the room signal light illuminates.
- If there is no cancel panel and only one call is made in the room, an existing call is cancelled.
- You are informed of further calls for your presence category by means of an audible signal (acoustic call forwarding); for signals see section 5.2 “Signalling calls” on page 10.
- You can disconnect a patient’s handset or the like without triggering a plug removed call (see section “Plug removed call” on page 9).
- You can make emergency calls.
- You receive the calls that are intended for your presence category.

RFID tags and IR sensors can be assigned to individual people. Additional functions include:

- Medicall 800 stores the time at which your presence was registered and cancelled in mediLog.
- If you leave the room or cancel your presence with the RFID tag and no other presence is registered in the room, Medicall 800 cancels the presence.

5 Making and processing calls

5.1 Making calls (systems with and without speech)

5.1.1 Patient makes a call

Figures 4 and 5 show devices at which the patient can make a call.

- Buttons: Press the call button to make a call.
  A locating light illuminates weakly next to the call button so that you can find the call button even in the dark.
- Pneumatic ball (in case of pneumatic call panel): Press the ball.
- Pull cord (in case of pull switch): Pull the pull cord.

There is a reassurance light in all call devices. It illuminates to indicate to the patient that his call has been accepted by the system. Table 2 shows the buttons for making calls.

Button	Call
	Used by the patient to call the nursing staff.
	Used to call the service personnel.

Table 2: Buttons used by patients to make a call

By the bed

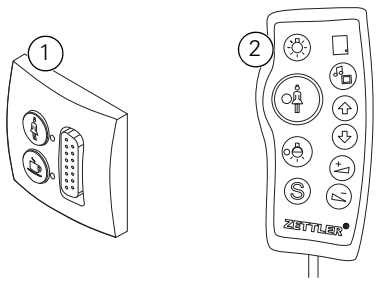


Fig. 4: Bedside devices used by patients to make a call
1– Call panel (device shown here with patient call, service call, socket)
2– Patient's handset

In the bathroom or WC

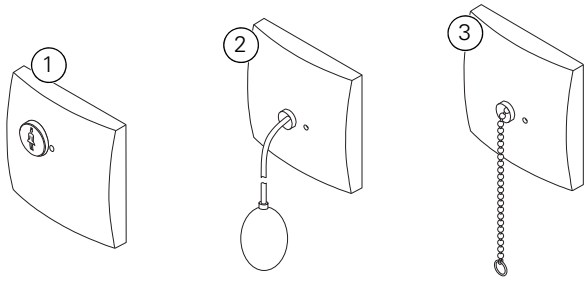


Fig. 5: Devices used by patients to make a call in the WC
1– Call panel
2– Pneumatic call panel
3– Pull cord panel

The patient makes a WC call in the bathroom or WC.

5.1.2 Calls triggered automatically

Infusion call and diagnostic call

These calls are triggered automatically by the connected monitoring devices. To cancel these calls, set your presence and cancel the alarm at the monitoring device.

If the alarm is not cancelled at the monitoring device, the diagnostic call is triggered again within 2 seconds.

Plug removed call

This call is triggered automatically if the plug of a mobile call device (pendant push button, patient's handset or adapter for medical device) is inadvertently pulled out of the socket.

If you have set your presence properly, you can disconnect or replace a mobile call device at any time without the automatic plug removed call being triggered.

5.1.3 Nursing staff make a call

In the room or by the bed

If you have set the presence, you can make the calls from table 3 using the call buttons.

Button	Call
	Used to call a nurse in an emergency.
	Used to call a doctor in an emergency.
	Used by staff to call other nursing staff.
	Used to call the resuscitation team in the event of a cardiac call.

Table 3: Buttons used by nursing staff to make a call

In the bathroom or WC

If you have set your presence and then press any call device in the bathroom or WC, this triggers a WC emergency call.

5.2 Signalling calls

DANGER

The LEDs of the LED lights are very bright. If you look directly into the LEDs without a diffuser, you could injure your eyes.

Fit the diffuser before looking into the LEDs.

WARNING

Danger that the call of a second call device in the same room will not be noticed.

If the acoustic signal indicating that a second call has been forwarded to the same room is heard, find out who made the second call. If necessary, see to other patients first.

WARNING

If Medicall 800 changes to emergency mode, it continues to distribute calls to all nodes of the station.

In all components with a display Medicall 800 shows this emergency mode with "Emergency mode" (depending on your configuration).

Calls continue to be indicated on the overdoor lights. During emergency mode, check the overdoor lights to find out where a call was made from.

Tables 4 on page 11, 5 on page 12 and 6 on page 13 show how calls in the system are signalled in compliance with DIN VDE 0834.

Tables 8 on page 15, 7 on page 14, 9 on page 16 and 10 on page 17 show how calls in the system are signalled in compliance with HTM 08-03.

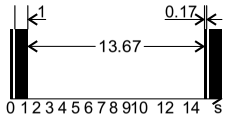
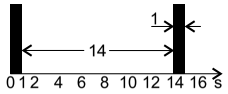
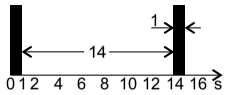
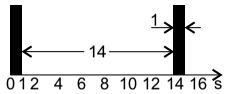
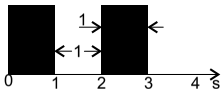
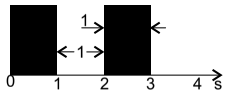
Call category	Reassurance light	Overdoor light	Other signal lights [a]	Acoustic call forwarding	Devices with display	Corridor display	Pager system, DECT
Telephone call	Constant light	Constant light in the telephone call lamp	Constant white light		Call category and call line shown on display [b]	Call and call line shown on display [c]	Depends on type of system [d]
Normal call, e.g. patient call, service call, plug removed call, infusion call	Constant light	Constant red light	Constant white light		Call category and call line shown on display[b]	Call and call line shown on display[c]	Depends on type of system[d]
WC call	Constant light	Constant red and white light	Constant white light		Call category and call line shown on display[b]	Call and call line shown on display[c]	Depends on type of system[d]
Normal call, e.g. staff call	Constant light	Constant red and green light	Constant white light		Call category and call line shown on display[b]	Call and call line shown on display[c]	Depends on type of system[d]
Emergency call, e.g. diagnostic call	Constant light	Flashing red light 	Flashing white light		Call category and call line shown on display[db]	Call and call line shown on display[dc]	Depends on type of system[d]

*Table 4: Signalling pursuant to **DIN VDE 0834***
If the call location is a WC, the white WC lamp in the overdoor light also illuminates.

a – Station, group, direction signal light.
b – See sections 6.4.2 "Display indication" on page 42 and 6.5.2 "Display indication" on page 45.
c – See section 7.3 "Call indication on the corridor display" on page 52.
d – See section 8.1 "Systems with pagers)" on page 56 and 8.2 "Systems with cordless telephones (DECT)" on page 56.

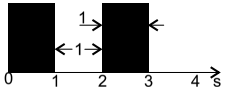
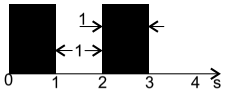
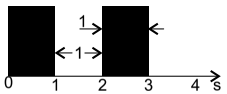
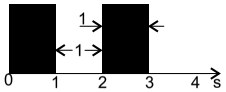
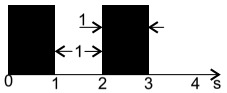
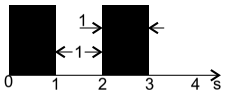
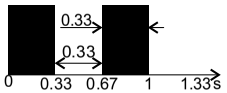
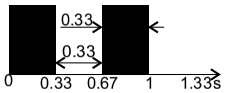
Call category	Reassurance light	Overdoor light	Other signal lights [a]	Acoustic call forwarding	Devices with display	Corridor display	Pager system, DECT
Emergency call, e..g nurse emergency call, doctor emergency call	Constant light	Flashing red light  Constant green or yellow light	Flashing white light		Call category and call line shown on display [b]	Call and call line shown on display [c]	Depends on type of system [d]
WC emergency call	Constant light	Flashing red light  Constant white and green light	Flashing white light		Call category and call line shown on display[b]	Call and call line shown on display[c]	Depends on type of system[d]
Alarm, e.g. fire alarm, special emergency call	Constant light	Flashing red light 	Flashing white light		Call category and call line shown on display[b]	Call and call line shown on display[c]	Depends on type of system[d]
Cardiac call	Constant light	Rapid flashing red light  Constant green light	Rapid flashing white light		Call category and call line shown on display[b]	Call and call line shown on display[c]	Depends on type of system[d]
Presence 1	Constant light	Constant green light	-	No call forwarding	Indication in lists	Indication possible	No signalling
Presence 2	Constant light	Constant yellow light	-	No call forwarding	Indication in lists	Indication possible	No signalling

*Table 5: Signalling pursuant to **DIN VDE 0834***
If the call location is a WC, the white WC lamp in the overdoor light also illuminates.

a – Station, group, direction signal light.
b – See sections 6.4.2 "Display indication" on page 42 and 6.5.2 "Display indication" on page 45.
c – See section 7.3 "Call indication on the corridor display" on page 52.
d – See section 8.1 "Systems with pagers)" on page 56 and 8.2 "Systems with cordless telephones (DECT)" on page 56.

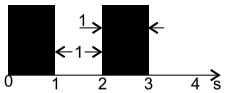
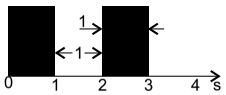
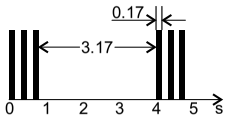
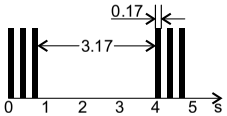
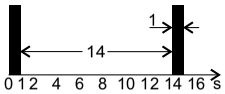
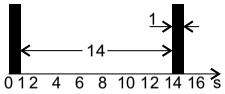
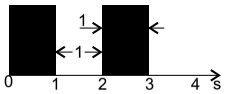
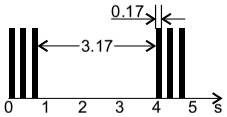
Call category	Reassurance light	Overdoor light	Other signal lights [a]	Acoustic call forwarding	Devices with display	Corridor display	Pager system, DECT
Stored calls	Flashing light	Flashing green light 	-	No call forwarding	Indication in lists	No signalling	No signalling
Stored WC call and WC emergency call	Flashing light	Flashing green or yellow light  Constant white light	-	No call forwarding	Indication in lists	No signalling	No signalling
Fault, light call fault, emergency call fault		Call line WC white: 	No optical signal		Call category and call line shown on display [b]	Call and call line shown on display [c]	Depends on type of system [d]
Message	Constant light	Constant red light, if WC is location also constant white light	No optical signal		Call category and call line shown on display[b]	Call and call line shown on display[c]	Depends on type of system[d]
Emergency call message	Constant light	Flashing red light, if WC is location also constant white light	No optical signal		Call category and call line shown on display[b]	Call and call line shown on display[c]	Depends on type of system[d]
Call forwarding to the actual room	-	-	-		-	-	-

*Table 6: Signalling pursuant to **DIN VDE 0834***
If the call location is a WC, the white WC lamp in the overdoor light also illuminates.

a – Station, group, direction signal light.
b – See sections 6.4.2 "Display indication" on page 42 and 6.5.2 "Display indication" on page 45.
c – See section 7.3 "Call indication on the corridor display" on page 52.
d – See section 8.1 "Systems with pagers)" on page 56 and 8.2 "Systems with cordless telephones (DECT)" on page 56.

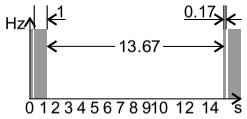
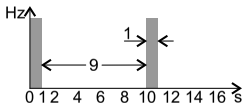
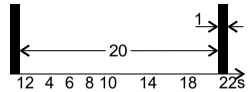
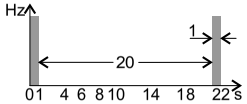
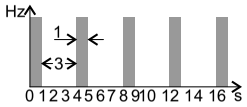
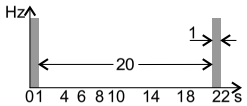
Call category	Reassurance light	Overdoor light	Other signal lights [a]	Acoustic call forwarding	Devices with display	Corridor display	Pager system, DECT
Telephone call	Constant light	Constant light in the telephone call lamp	Constant white light		Call category and call line shown on display [b]	Call and call line shown on display [c]	Depends on type of system [d]
Normal call, e.g. patient call, service call, plug removed call, infusion call	Constant light	Constant red light	Constant white light		Call category and call line shown on display[b]	Call and call line shown on display[c]	Depends on type of system[d]
Normal call without call forwarding (HTM 08-03: controlled drugs cupboard)	Constant light	Slow flashing red light 	Constant white light		Call category and call line shown on display[b]	Call and call line shown on display[c]	Depends on type of system[d]
WC call	Constant light	Constant red and white light	Constant white light		Call category and call line shown on display[b]	Call and call line shown on display[c]	Depends on type of system[d]
Normal call, e.g. staff call	Constant light	Constant red and green light	Constant white light		Call category and call line shown on display[b]	Call and call line shown on display[c]	Depends on type of system[d]

*Table 7: Signalling pursuant to **HTM 08-03***
If the call location is a WC, the white WC lamp in the overdoor light also illuminates.
In acoustic call forwarding the pitch is indicated in Hz.

a – Station, group, direction signal light.
b – See sections 6.4.2 "Display indication" on page 42 and 6.5.2 "Display indication" on page 45.
c – See section 7.3 "Call indication on the corridor display" on page 52.
d – See section 8.1 "Systems with pagers)" on page 56 and 8.2 "Systems with cordless telephones (DECT)" on page 56.

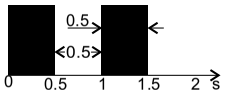
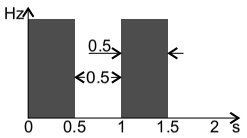
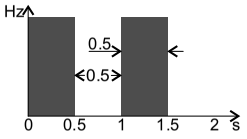
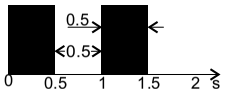
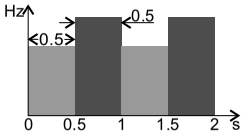
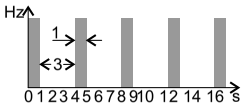
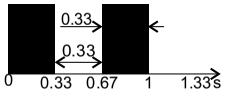
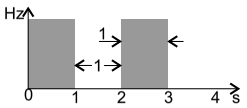
Call category	Reassurance light	Overdoor light	Other signal lights [a]	Acoustic call forwarding	Devices with display	Corridor display	Pager system, DECT
Emergency call, e.g. diagnostic assistance call	Constant light	Flashing red light 	Flashing white light		Call category and call line shown on display[db]	Call and call line shown on display[dc]	Depends on type of system[d]
Emergency call, e.g. nurse call	Constant light	Flashing red light, constant green or yellow light	Flashing white light		Call category and call line shown on display [b]	Call and call line shown on display [c]	Depends on type of system [d]
Emergency call, e.g. doctor emergency call	Constant light	Flashing red light  Constant green or yellow light	Flashing white light	Two-tone signal 	Call category and call line shown on display[b]	Call and call line shown on display[c]	Depends on type of system[d]
WC emergency call	Constant light	Flashing red light, constant white and green light	Flashing white light		Call category and call line shown on display[b]	Call and call line shown on display[c]	Depends on type of system[d]
Alarm, e.g. fire alarm, special emergency call	Constant light	Flashing red light 	Flashing white light		Call category and call line shown on display[b]	Call and call line shown on display[c]	Depends on type of system[d]

*Table 8: Signalling pursuant to **HTM 08-03***
If the call location is a WC, the white WC lamp in the overdoor light also illuminates.
In acoustic call forwarding the pitch is indicated in Hz.

a – Station, group, direction signal light.
b – See sections 6.4.2 "Display indication" on page 42 and 6.5.2 "Display indication" on page 45.
c – See section 7.3 "Call indication on the corridor display" on page 52.
d – See section 8.1 "Systems with pagers)" on page 56 and 8.2 "Systems with cordless telephones (DECT)" on page 56.

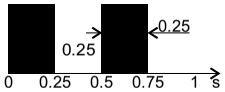
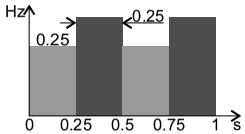
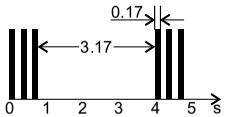
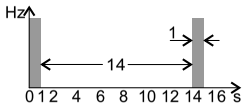
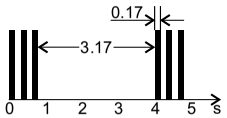
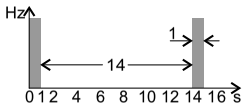
Call category	Reassurance light	Overdoor light	Other signal lights [a]	Acoustic call forwarding	Devices with display	Corridor display	Pager system, DECT
Cardiac call	Constant light	Rapid flashing red light  Constant green light	Rapid flashing white light	Two-tone signal 	Call category and call line shown on display[b]	Call and call line shown on display[c]	Depends on type of system[d]
Presence 1	Constant light	Constant green light	-	No call forwarding	Indication in lists	Indication possible	No signalling
Presence 2	Constant light	Constant yellow light	-	No call forwarding	Indication in lists	Indication possible	No signalling
Stored calls	Flashing light	Flashing green light	-	No call forwarding	Indication in lists	No signalling	No signalling
Stored WC call and WC emergency call	Flashing light	Flashing green or yellow light, constant white light	-	No call forwarding	Indication in lists	No signalling	No signalling
Fault		-	-		Call category and call line shown on display [b]	Call and call line shown on display [c]	Depends on type of system [d]
Light call fault		Constant red light, if WC is location white instead	-		Call category and call line shown on display[b]	Call and call line shown on display[c]	Depends on type of system[d]

*Table 9: Signalling pursuant to **HTM 08-03***
If the call location is a WC, the white WC lamp in the overdoor light also illuminates.
In acoustic call forwarding the pitch is indicated in Hz.

a – Station, group, direction signal light.
b – See sections 6.4.2 "Display indication" on page 42 and 6.5.2 "Display indication" on page 45.
c – See section 7.3 "Call indication on the corridor display" on page 52.
d – See section 8.1 "Systems with pagers)" on page 56 and 8.2 "Systems with cordless telephones (DECT)" on page 56.

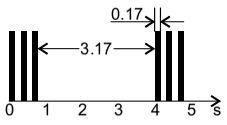
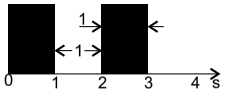
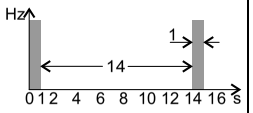
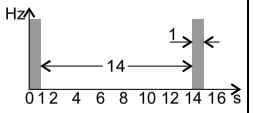
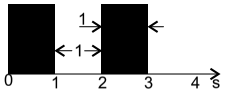
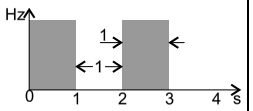
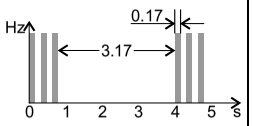
Call category	Reassurance light	Overdoor light	Other signal lights [a]	Acoustic call forwarding	Devices with display	Corridor display	Pager system, DECT
Emergency call fault		Flashing red light, if WC is location white instead: 	-		Call category and call line shown on display [b]	Call and call line shown on display [c]	Depends on type of system [d]
Message	Constant light	Constant red light	-		Call category and call line shown on display[b]	Call and call line shown on display[c]	Depends on type of system[d]
Emergency call message	Constant light	Flashing red light 	-		Call category and call line shown on display[b]	Call and call line shown on display[c]	Depends on type of system[d]
Call forwarding to the actual room	-	-	-		-	-	-

*Table 10: Signalling pursuant to **HTM 08-03***
If the call location is a WC, the white WC lamp in the overdoor light also illuminates.
In acoustic call forwarding the pitch is indicated in Hz.

a – Station, group, direction signal light.
b – See sections 6.4.2 "Display indication" on page 42 and 6.5.2 "Display indication" on page 45.
c – See section 7.3 "Call indication on the corridor display" on page 52.
d – See section 8.1 "Systems with pagers)" on page 56 and 8.2 "Systems with cordless telephones (DECT)" on page 56.

5.3 Processing a call at the call line

5.3.1 Cancel call

How to cancel a call with the presence button

1 Set your presence 1 or 2 when entering a room.
The acoustic signalling and the signalling on signal lights and other displays is cancelled. You can tell from the bright reassurance lamp which bed the call was made from.
2 Cancel your presence when leaving the room.
The call is cancelled.

How to cancel a call with the cancel panel, e.g. in the bathroom or WC

1 Set your presence 1 or 2.
The call is signalled optically and acoustically until it is cancelled.
You can tell from the bright reassurance lamp where the call was made from.
2 Press the cancel panel.
The call is cancelled.
3 Cancel your presence when leaving the room.

How to cancel several calls in the room

1 Set your presence 1 or 2.
If several calls have been made in the room, this is signalled by call forwarding into the room (3 consecutive short tones, pause). You can tell from the bright reassurance light where the call was made from. If there is a display in the room, the call lines will be displayed there.
2 Press your presence button again.
The acoustic signalling and the signalling on signal lights and other displays is cancelled.
3 Cancel your presence when leaving the room.
The reassurance lights and the calls are cancelled.

Cancelling a call with speech facility at the answer station

You can answer calls with a speech facility. When you end the voice contact, the call is cancelled automatically.

After the voice contact has ended emergency calls are stored automatically and can only be cancelled from there.

You can answer alarms. However, they remain active after voice contact has ended and must be cancelled from there.

5.3.2 Stored calls

A stored call is signalled again after the storage time

Every stored call is signalled again after the storage time.

The storage time is set individually for each system.

What you can store a call with

You can store calls with these components:

- At answer stations and communication terminals with speech (see section 6.4.3 “Processing calls” on page 42)
- At station and group displays without speech (see section 6.5.3 “Processing calls” on page 46)

How you detect a stored call

How to detect a stored call:

- The green lamp in the overdoor light flashes.
- The reassurance light of the call panel flashes.
Rooms with several beds: Before cancelling the stored call, you can see which bed the call had been made from by the brightly flashing reassurance light.

What happens with stored calls

Storing changes the signalling:

- At the call line the call is signalled as a stored call (see section 5.2 “Signalling calls” on page 10).
- The call is no longer signalled at the answer stations, communication terminal and displays and is moved to the list of stored calls.

6 Answer stations

6.1 NCS Touch

Use

The NCS Touch is the answer station for the nursing staff. The NCS Touch displays all events in a station and allows you to process all events. In addition, the nursing staff can use the NCS Touch to make voice contact with various areas of the Medicall 800 system or with rooms.

Components

The components of the NCS Touch are described in figure 6.

NCS Touch with desktop kit

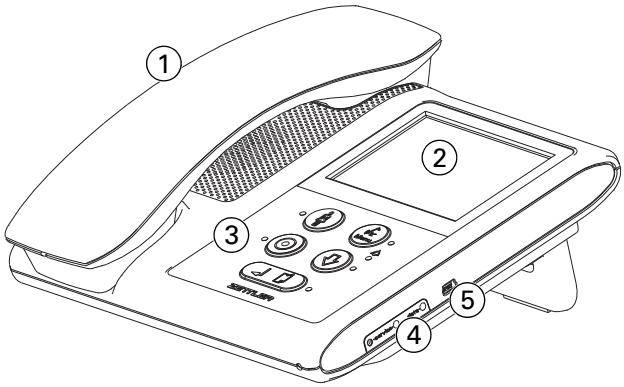


Fig. 6: NCS Touch with desktop kit
1– Handset
2– Display (touchscreen)
3– Membrane keyboard
4– Service pin, service and data LEDs
5– USB 2.0 mini-B socket for USB stick for software update Use USB adapter OTG for connecting USB sticks.

Ports on the underside of the NCS Touch with desktop kit

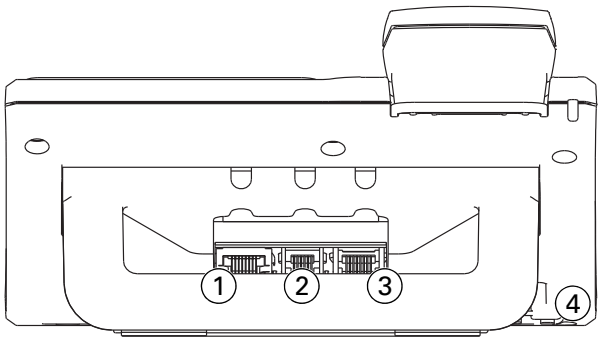


Fig. 7: Rear of the NCS Touch with desktop kit
1– Port for LAN (with metal frame), not used
2– Connection for outputs, RJ12, 6 pins
3– Port for LON
4– Port for handset cable, RJ-10, 4 pins

6.1.1 Handset

- When a call with speech is indicated: Lift the handset to answer the call.
- When a call without speech is indicated: No function.
- While answering: Replace the handset to end voice contact. This cancels calls. Emergency calls are stored.
- When you have answered a call using the answer button and are already speaking in hands-free mode: Lift the handset to speak using the handset. Hands-free mode is ended.

6.1.2 Buttons

Setting presence

Only if you set your presence can you use the NCS Touch and process calls.

However, you can also make a call with the call button without setting your presence.

Membrane buttons

Button	Explanation
	Call button ■ Make a patient call. ■ Reassurance light on: Call has been initiated.
	Presence button ■ Set or cancel presence 1. ■ Switch NCS Touch on and off with the presence as well. ■ Cancel calls that were made on this NCS Touch with the presence. ■ LED on: Presence has been set.

Table 11: Membrane buttons and what they mean

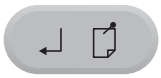
Button	Explanation
	Answer or open the menu ■ When a call with speech is indicated: Answer the call in hands-free mode. To end the current voice contact, press the button again. Emergency calls are stored automatically. When you have answered a call using the answer button and are already speaking in hands-free mode: Lift the handset and speak. ■ If there is no call with speech: – Open the menu. – Or return to the next higher level in the menu. ■ LED on: – Call with speech present. – Or menu can be opened.
	Call LED The LED indicates new calls, faults and messages.
	Scroll button ■ Move the marking in lists. ■ LED on: Marking in a list can be moved.
	**ENTER or store call** ■ Calls with/without speech: Store the current call. ■ During answering: Store the current call. ■ Fault/message: Acknowledge the current fault/message. ■ If there is a new call during voice contact: Store the first call. ■ In the function menu: Confirm selection.

Table 11: Membrane buttons and what they mean (cont.)

Buttons on the display

Button	Explanation
	Answer ■ When a call with speech is indicated: Answer the call in hands-free mode. ■ To end the current voice contact, press the button again. Emergency calls are stored automatically. ■ When you have answered a call using the answer button and are already speaking in hands-free mode: Lift the handset and speak.
	Store call Please note: **STORE** is a list of stored calls
	Mute the microphone of the NCS Touch and switch it on again
	PTT (Push to talk) When you answer a call or make voice contact with a room, the NCS Touch automatically switches the direction of speech between the people talking. ■ If loud noises or conversations disturb voice contact at your end or at the other end of the line, press the PTT button PTT **and hold it down.** ■ The NCS Touch changes to PTT mode. To speak, press the PTT button PTT and hold it down. ■ When you release the PTT button again, the direction of speech changes. You can now hear the person at the other end of the line. ■ The PTT buttons PTT PTT indicates that you are in PTT mode. The symbol on the button indicates the direction of speech when you press the button. ■ Once the voice contact has been ended, the NCS Touch reverts to automatic mode again.
	Voice contact Voice contact in hands-free mode.
	Announcement Voice contact in hands-free mode.

Table 12: Buttons on the display and what they mean

Button	Explanation
	Change volume During the voice contact you can adjust the volume for hands-free speech or speaking with the handset.
	Postpone call If a new call is signalled during voice contact, you can suppress signalling on the NCS Touch using this button. This allows you to continue talking undisturbed. The call is not stored or cancelled. It is only not signalled on this NCS Touch. The call will be displayed again as soon as you have finished your voice contact.
	Telephone The NCS Touch opens a field for entering the telephone number.
MENU	**Open menu**
ENTER	**Confirm change**
ESC	**Return to the next higher level in the menu**
PRES	**Open list of presences**
STORE	**Open list of stored calls**
DOOR	**Open door** The display button DOOR appears *during voice contact* with the door. If you then tap on this button, you can open the door.

Table 12: Buttons on the display and what they mean (cont.)

6.1.3 Display

All events (calls, messages, faults, presences) are indicated on the display (see figure 8).

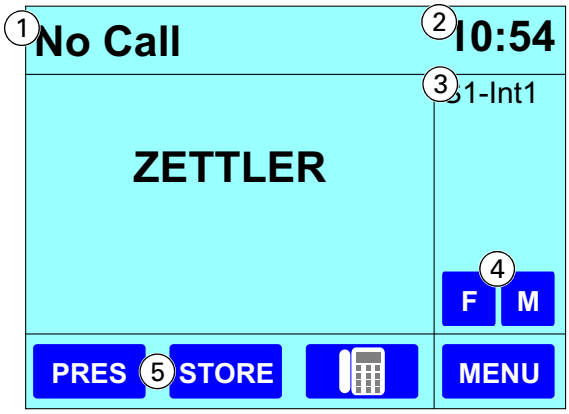


Fig. 8: Display of the NCS Touch
1– Current calls
2– Time
3– Activated interconnections
Tap on the interconnections to open the list of interconnections.
4– F – Faults
M – Messages
Tap on the symbol to open the list.
5– Frequently used lists and functions

A new call is displayed in this format:
SSSSSSSS #CCCCCC RRRRRR LLLLLLLL
If there are calls in the call list, the station/group is not displayed:
The format is explained in table 13.

Symbols	Explanation
SSSSSSSS	Station/group
CCCCCC	Call text
RRRRRR	Room
LLLLLLLL	Call line (e.g. bed)
#	A # character before the call designation indicates that this call has already been stored and is now being signalled again.

Table 13: Display format and explanation
The presentation in the fields depends on the settings of the call system.

6.1.4 Menu

Menu items hidden

The engineer can hide or display menu items.
This may mean that some menu items are hidden on your NCS Touch.

Menu (function)	Submenu	Element	Explanation
Announcement	**Station**		Tap on Announcement to make an announcement to all terminals in the station.
	General		Tap on All stations to make an announcement to all terminals of all stations.
	Presence 1/2		Tap on Presence 1 or 2 to make an announcement to all terminals in the station in which the nursing staff have set a presence.
	Care groups		Tap on Care groups to make an announcement to all terminals of a care group.
Combined Op.	**Interconnection**		The NCS Touch indicates all interconnections of your station with other stations. Select the interconnections with the groups or stations that the NCS Touch is to monitor.
Lists	**Presences**		The NCS Touch indicates all presences of your station. You can select and make voice contact with presences with a speech facility.
	Messages		The NCS Touch indicates all messages of your station.
	Stored calls		The NCS Touch indicates all stored calls of your station. You can select and make voice contact with stored calls with a speech facility.
	Faults		The NCS Touch indicates all faults of your station.
Call forwarding	**Volume**		Tap on Volume to change the volume for forwarded calls.
Voice contact	**Rooms and call terminals**		Select a room with speech with which you want to make voice contact.
Sounder	**Sounder**		Switch the call tone signal of the NCS Touch on or off.
Monitor room	**Start monitoring**		Monitor sequentially all rooms of the room list without being heard in the room.
	Change room list		Add rooms that you want to monitor, or delete them from the list.
	Monitor pres.		Determine whether rooms with a set presence are to be able to be monitored.
Management	**Care groups**		Change the assignment of a room to a care group.
	Voice contact	Dial in privacy	Change the dial in privacy setting for making voice contact with individual rooms.
		Gong volume	Change the volume of the gong when making voice contact with individual rooms.
	Change password		Change the password used to save individual menu items.
	Time and date		Change the time and date.
	Contrast		Change the display contrast.
	Store call		Store the calls of a component from which a call was made but that then developed a fault.
	Cancel call		Delete the calls of a component from which a call was made but that then developed a fault.

Table 14: Menu structure

Menu (function)	Submenu	Element	Explanation
Service	**Node monitoring**		Here the service engineer can switch node monitoring for individual nodes on and off.
	Initialise password		Here the service engineer can cancel the customer password.
	Version		Here the service engineer can view technical data about the NCS Touch.
	Software update		Here the service engineer can update the software of the NCS Touch.

Table 14: Menu structure (cont.)

6.1.5 Use, general information

Touchscreen (touch-sensitive screen)

You can run all functions of the NCS Touch using the touchscreen. Please note:

- Do not use sharp objects to tap on commands on the touchscreen.
- Just tap gently on the commands on the touchscreen.
- Functions without a password can also be executed using the membrane keyboard.
- Information on cleaning and disinfection can be found in section 10.5.2 "Cleaning and disinfection" on page 65.

Navigation in the menu

- Tap on the individual menu items to open or select a menu. To return to the next higher level in the menu, tap on **ESC** (menu on the membrane keyboard).
- To scroll in a menu, tap on the arrow keys on the right-hand side.
- If you want to change a value, tap on it to select it and then change it. Then tap on **ENTER** to confirm the change.

  On the membrane keyboard, tap on **ENTER** to change a value and simultaneously confirm it.
- The NCS Touch returns to the start window if you do not tap on the touchscreen for 20 seconds.

Password-protected menus

Some menus may be protected with a password.

If a password is allocated for a menu, enter the password and then tap on **ENTER**.

If you want to delete a character, tap on the arrow key on the right in the display.

If you want to enter figures, tap on **1..9**. Tap on **A..Z** to enter letters again.

6.1.6 Switching the NCS Touch on

How to switch the NCS Touch on

1 Press the presence button to set your presence and switch the NCS Touch on.

  Only when you have set your presence can you operate the NCS Touch.

  An LED beside the presence button indicates the set presence.

6.1.7 Answering a call with speech facility

Extend talk time

If you speak for so long that the maximum talk time is nearly exhausted, the NCS Touch alerts you to this with a gong. To continue talking, tap on **YES** in response to the question.

New call while you are answering a call

The NCS Touch indicates new calls in the display while you are in the process of answering a call. You have the following options:

- Put the new call on hold. To do so, tap on . The NCS Touch then signals the new call as soon as you have ended the current call.
- End the current call and change to the new call. To do so, press the answer button . The NCS Touch stores the old call.

Marker

Identification of a call with speech facility	Explanation
	Audio signal
	Indication of the call in the display
	Call LED
	Call with speech, also answer button in the display.

Table 15: Identification of a call with speech facility

How to answer a call with speech

1 Pick up the handset .
Or tap on the answer button to speak in hands-free mode.
The voice contact is established automatically.

2 To store the call, tap on **STORE**.
If your Medicall 800 system supports the Store with presence function, the NCS Touch displays a list of presences. Then tap on your presence. The call is stored.
Emergency calls are stored automatically after voice contact is ended.

3 End the call. Replace the handset .
Or tap on the answer button to end the voice contact.

6.1.8 Processing a call without speech (e.g. WC call)

Marker

Identification of a call without speech facility	Explanation
	Audio signal
	Indication of the call in the display
	Call LED

Table 16: Identification of a call without speech facility

How to process a call without speech

1 To store the call, tap on **STORE**. For faults and messages, tap on **QUIT**.
If your Medicall 800 system supports the Store with presence function, the NCS Touch displays a list of presences. Then tap on your presence.
The call is stored. Faults and messages are acknowledged.

6.1.9 Voice contact

The NCS Touch allows you not only to answer calls that are indicated on the display but also make voice contact with rooms or beds. You can make voice contact with:

- Rooms with and without presence
- Rooms with stored calls
- Individual beds

You can also make announcements to your whole Medicall 800 system, the station or individual care groups (see section 6.2.7 “Announcement” on page 34).

Extend talk time

If you talk so long that the maximum talk time is nearly reached, the NCS Touch indicates this. Then tap on **YES** to continue talking.

New call while you are speaking

The NCS Touch indicates new calls in the display while you are in the process of speaking. You have the following options:

- Put the new call on hold. To do so, tap on . The NCS Touch then signals the new call as soon as you have ended the voice contact.
- End the voice contact and change to the new call. To do so, tap on the answer button.

How to make voice contact with a room with presence

1 Tap on **PRES** to open the list of presences.
Or tap on **MENU** to open the menu. Tap on the arrow keys until **Lists** appears and then tap on it. Tap on **Presences**.

2 Tap on the desired presence if it is not already marked.

3 Pick up the handset .
Or tap on to speak in hands-free mode.

4 Now speak to the room with the selected presence. The person in the room you are speaking to can talk to you immediately.

5 End the voice contact. Replace the handset .
Or tap on .

How to make voice contact with a room with a stored call

1 Tap on **STORE** to open the list of stored calls.
2 Tap on the desired stored call if it is not already marked.
3 Pick up the handset .
Or tap on to speak in hands-free mode.
4 Now you can speak to the room with the selected call immediately.
5 End the voice contact. Replace the handset .
Or tap on .

Making voice contact with a room by dialling in privacy

You can only make voice contact with a room without a call or presence by dialling in privacy. You can speak, but you cannot hear anything in the room as long as the patient does not answer the call using the call button.

The NCS Touch indicates dial in privacy on the display: Please talk [dial in privacy].

Ask someone in the room to press the call button. You can then make voice contact with the room.

How to make voice contact with a room of the station or interconnection

1 Tap on **MENU** to open the menu.
2 Tap on the arrow keys until **Voice contact** appears and then tap on it.
3 Tap on the desired room if it is not already marked.
If you want to make voice contact with a room in another station, tap on **ALL** to display the rooms of all stations.
4 If there are several beds in the room with which voice contact may be established, the NCS Touch displays a list of the beds.
Tap on the bed number or the room number.
5 Pick up the handset .
Or tap on to speak in hands-free mode.
You can now speak to the room with which voice contact has been established. If someone in the room presses the call button, he or she can answer your call.
6 End the voice contact. Replace the handset .
Or tap on .

6.1.10 Announcement

How to make an announcement

1 Tap on **MENU** to open the menu.
2 Tap on **Announcements**.
3 Tap on the arrow keys until your desired announcement destination appears, and tap on it.
4 Pick up the handset and make your announcement.
Or tap on to speak in hands-free mode.
5 End the announcement. Replace the handset .
Or tap on .

6.1.11 Initiating a call

Press the call button to make a call.
The NCS Touch indicates that a call has been made by a reassurance light next to the button.

6.1.12 Monitor room

The NCS Touch allows you to monitor sequentially all rooms of the room list without being heard in the room. You can set whether rooms with presence are to be missed.

How to prepare for listening

1 Tap on **MENU** to open the menu.
2 Tap on the arrow keys until **Monitor room** appears and tap on it.
3 To change the room list, tap on **Change room list**.
Tap on the arrow keys until the desired room appears.
Tap on the station or a room to set it to ON (monitor) or OFF (not monitor). Then tap on **ENTER** to confirm the change. Next, tap on **ESC** to return to the next higher level.
4 If you also want to monitor rooms which have set presences, tap on **Monitor presence**. Then tap on the presence to set it to ON (monitor) or OFF (not monitor). Then tap on **ENTER** to confirm the change. Next, tap on **ESC** to return to the next higher level.
5 Tap on **ESC** to return to the next higher level.

How to monitor sequentially all rooms of the room list

1 Tap on **MENU** to open the menu.
2 Tap on the arrow keys until **Monitor room** appears and tap on it.
3 Tap on **Start monitoring** to monitor the rooms of the room list. If you want to hear with the handset rather than the speaker, pick up the handset .
4 Tap on **STOP** to stop at a room and not move on to the next room.
5 Tap on to speak to the room. You can only speak while you are tapping on the button.
6 Tap on **CONT.** to move between the rooms automatically again.
7 Finish monitoring. Replace the handset .
Or tap on .

6.1.13 Acknowledging faults and messages

Fault messages must always be observed!

In the event of a fault, notify your head office or service department in accordance with your duty instructions.

Not only calls but also faults and messages can be indicated on the NCS Touch. The following faults are indicated:

- General node fault NodeFT
- Line fault in the room: CallFt

Additional faults or messages may appear on the display, depending on the settings of the call system.

How to acknowledge a fault or message

1 Tap on **QUIT** to acknowledge a fault or message. It will be stored in the list of faults and messages.

An "F" appears on the right in the start screen to indicate a fault.

An "M" appears on the right in the start screen to indicate a message.

6.1.14 Telephone

If your NCS Touch and call system are suitably configured, you can receive calls or call someone using the NCS Touch just as you could with an ordinary telephone.

New call while you are telephoning

The NCS Touch indicates new calls in the display while you are in the process of telephoning. You have the following options:

- Put the new call on hold. To do so, tap on **ENTER**. The NCS Touch then signals the new call as soon as you have ended the call.
- End the call and change to the new call. To do so, tap on the answer button .

How to telephone with the NCS Touch

1 Pick up the handset .

If you do not pick up the handset, you automatically speak in hands-free mode.

2 Tap on the telephone symbol to select the telephone function.

3 Enter the telephone number. If you want to delete a character, tap on the arrow key on the bottom right in the display.

To obtain a dial tone for an outside line, dial the same number as you would from other telephones in your telephone system.

If you have entered the wrong telephone number, tap on the answer button and start again.

4 When the called person answers, speak to him/her.

5 If a call is made during the call, this is indicated in the display.

Tap on **ENTER** to put the call on hold. Or end your call and receive the other call.

If you put the call on hold, the NCS Touch signals the new call as soon as you have ended your call.

6 End your call. Replace the handset .

Alternatively, tap on the answer button .

6.1.15 Signal emergency mode

Emergency mode must always be heeded!

If the NCS Touch indicates emergency mode, inform your head office or service department in accordance with your duty instructions.

6.1.16 Additional functions

How to open a door with the NCS Touch

1 If the door bell rings, the NCS Touch indicates a door call.

2 Pick up the handset . Or tap on the answer button to speak in hands-free mode.

The button **DOOR** appears in the display.

3 Now activate the door opener. Tap on **DOOR** to open the door.

The door opener is activated for 2 seconds.

4 End your call. Replace the handset .

Alternatively, tap on the answer button .

How to change an interconnection

1 Tap on **MENU** to open the menu.

2 Tap on **Interconnection**.

3 Tap on the arrow keys until the desired interconnection appears.

Tap on the interconnection to set it to ON or OFF. Then tap on **ENTER** to confirm the change.

4 Next, tap on **ESC** to return to the next higher level.

How to check a list

1 Tap on **MENU** to open the menu.

2 Tap on the arrow keys until **Lists** appears and then tap on it.

3 Tap on the list that you want to check.
   – Presences
   – Messages
   – Stored calls (depending on the configuration of the NCS Touch, you can store stored calls again or you can delete them)
   – Faults
4 Tap on the arrow keys to display all elements of the list.
   You can answer or make voice contact with presences and stored calls with speech. Tap on the desired presence or the stored call.
5 Pick up the handset .
   Or tap on to speak in hands-free mode.
   Now speak to the selected room. The nursing staff or the patient in the selected room can talk to you immediately.
6 End the voice contact. Replace the handset .
   Alternatively, tap on the answer button .
7 Next, tap on **ESC** to return to the next higher level.

6.1.17 Settings for Medicall 800

Assigning a room to a care group

You can assign a room to a care group.

How to assign a room to a care group

1 Tap on **MENU** to open the menu.
2 Tap on the arrow keys until **Management** appears and then tap on it.
3 Tap on **Care groups**.
4 Tap on the arrow keys until the room that you want to assign to another care group is displayed.
   Keep tapping on the room until the NCS Touch indicates the desired care group. Then tap on **ENTER** to confirm the change.
   WARNING: When you assign a room to another care group, it takes approx. 15 seconds for the room to apply the change. No calls can be made in this room during this time. Patients could be put at risk.
5 Then tap on **ESC** to return to the next higher level.

Deactivating dialling in privacy for individual rooms

You can activate or deactivate dialling in privacy for individual rooms. Without dialling in privacy you can monitor a room without anyone in the room pressing the call button.

How to deactivate dialling in privacy for individual rooms

1 Tap on **MENU** to open the menu.
2 Tap on the arrow keys until **Management** appears and then tap on it.
3 Tap on **Voice contact** and then **Dial in privacy**.
4 Tap on the arrow keys until the room whose dial in privacy setting you want to change appears.
   Tap on the room to set the dial in privacy setting to ON or OFF. Then tap on **ENTER** to confirm the change.
5 Then tap on **ESC** to return to the next higher level.

Changing the call forwarding volume in the station or care group

You can change the volume of the call tone for call forwarding in the station or care group of the NCS Touch.

How to change the call forwarding volume

1 Tap on **MENU** to open the menu.
2 Tap on **Call forwarding**.
   Tap on the volume until the NCS Touch indicates the desired volume. Then tap on **ENTER** to confirm the change.
3 Next, tap on **ESC** to return to the next higher level.

Changing the volume of the gong in the station or care group

You can change the gong volume for making voice contact with individual rooms in the station or care group of the NCS Touch.

How to change the gong volume for making voice contact with individual rooms

1 Tap on **MENU** to open the menu.
2 Tap on the arrow keys until **Management** appears and then tap on it.
3 Tap on **Voice contact** and then **Gong volume**.
4 Tap on the arrow keys until the room whose gong volume you want to change is displayed.
   Keep tapping on the room until the NCS Touch indicates the desired gong volume. Then tap on **ENTER** to confirm the change.
5 Then tap on **ESC** to return to the next higher level.

How to store a call of a component from which a call was made but that then developed a fault.

1 If a call was made by a component but this component then developed a fault, the call can no longer be stored or cancelled in the normal way. This call continues to be signalled in the station by call forwarding. However, you can still store or cancel the call in the **Management** menu.

2 Tap on **MENU** to open the menu.
3 Tap on the arrow keys until **Management** appears and then tap on it.
4 Tap on **Management** and then **Cancel call** or **Store call**.
5 Tap on the arrow keys until the call that you want to store or cancel appears. Then tap on **ENTER** to confirm the change.
The call is now cancelled in the station. When the fault is rectified, however, the component makes the call again. You can now store or cancel the call in the normal way.
6 Then tap on **ESC** to return to the next higher level.

6.1.18 Settings for the NCS Touch

How to change the volume of the NCS Touch

1 Tap on while in voice contact. Then tap on the arrow keys to change the volume of the speaker.
The NCS Touch remembers the volume, even when it is switched off.

Switching the call tone (sounder) on and off

The NCS Touch gives a call tone when it indicates a new call or the NCS Touch is addressed.
When you cancel the presence, the call tone will be switched on again.

How to switch the call tone (sounder) on or off

1 Tap on **MENU** to open the menu.
2 Tap on the arrow keys until **Sounder** appears and then tap on it.
3 Tap on Sounder to set the tone signal to ON or OFF. Then tap on **ENTER** to confirm the change.
When you cancel the presence, the call tone will be switched on again.
4 Next, tap on **ESC** to return to the next higher level.

How to change the time and date on the NCS Touch

1 Tap on **MENU** to open the menu.
2 Tap on the arrow keys until **Management** appears and then tap on it.
3 Tap on the arrow keys until **Time and date** appears and tap on it.
4 Enter the time, and underneath it the date.
5 You can move from one position to the next using the arrow keys.
6 Then tap on **ENTER** to confirm the change.
7 Next, tap on **ESC** to return to the next higher level.

How to change the display contrast

1 Tap on **MENU** to open the menu.
2 Tap on the arrow keys until **Management** appears and then tap on it.
3 Tap on the arrow keys until **Contrast** appears and then tap on it.
4 Tap on the arrow keys until the display is using the desired contrast. Or tap on the bar to increase or reduce the contrast.
5 Then tap on **ENTER** to confirm the change.
6 Next, tap on **ESC** to return to the next higher level.

Changing passwords for menu items

When configuring the NCS Touch with the ZETLON configuration software, you can determine whether a password is required for individual menus. In this case the user can open the menu only when he enters the password or the service password. You can change the password in the NCS Touch.

Preset customer password
The preset customer password is empty.

How to change the customer password

1 Tap on **MENU** to open the menu.
2 Tap on the arrow keys until **Management** appears and then tap on it.
3 Tap on the arrow keys until **Change password** appears and then tap on it.
4 Enter the old password and tap on **ENTER** to confirm it.
5 Then enter the new password and tap on **ENTER** to confirm it.
The password can consist of 2 to 8 characters.
6 Then enter the new password again and tap on **ENTER** to confirm it.
The NCS Touch has now accepted the new password.
7 Next, tap on **ESC** to return to the next higher level.

6.1.19 Service

CAUTION
This information is for service personnel only.
If you use these functions without authorisation, you could deactivate the automatic monitoring of devices of the Medicall 800 system and put patients at risk.

Settings of the NCS Touch may be overwritten in the event of a software update.

You can use the NCS Touch to change settings that affect other nodes, such as changing assigned care groups.

These changes may be overwritten when you update the NCS Touch software. They will be lost.

All service functions are protected by the service password

All service functions are protected by the service password.

This service password is known only to service technicians.

How to start up the NCS Touch

1 Press the presence button to switch the NCS Touch on.
2 Tap on **MENU** to open the menu.
3 Tap on the arrow keys until **Service** appears and then tap on it.
4 Enter the password for the NCS Touch and tap on **ENTER**.
   If you want to delete a character, tap on the arrow key on the bottom right in the display.
5 Tap on the various menu items to set or check them:
   – **Node monitoring**: Tap on the individual nodes to activate or deactivate monitoring. Then tap on **ENTER** to confirm the change.
   – **Initialise password**: Tap on **ENTER** to reset the password for the Management menu. No password is set when delivered.
   – **Version**: In this window you can display the hardware and software versions.
   – **Software update**: Tap on this if you want to update the software of the NCS Touch. The NCS Touch then looks for the software on a connected USB stick and uses it to update the software of the NCS Touch.
6 Next, tap on **ESC** to return to the next higher level.

Technical data

- Power supply via system bus: U_{in} = 20 - 28 V (no additional power supply required)
- Power consumption: approx. 200 mA
- LCD display (touchscreen): 320 x 240 pixels
- Dimensions with handset (WxHxD): 171 x 63 x 200 mm
- Weight: 620 g
- Colour: traffic white (RAL 9016)

6.2 Communication terminal Touch (CT Touch)

6.2.1 Overview

Use

The CT Touch is the communication terminal for use in patient's rooms and in ancillary rooms with roomwise or bedwise speed.

The CT Touch allows you to set your presence with an RFID tag as well.

Components

The components of the CT Touch are described in figure 9.

CT Touch

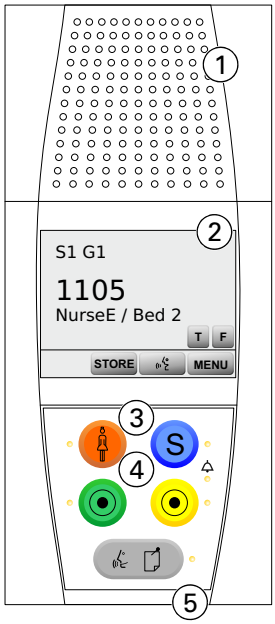


Fig. 9: CT Touch
1– Loudspeaker
2– Display (touchscreen)
3– Membrane keyboard
4– Service pin for CT Touch LON (press presence 1 and in the middle of the buttons at the same time), service LED Service pin for CT Touch LAN, see section 6.2.18 "Service" on page 38.
5– USB 2.0 mini-B socket for USB stick for software update Use USB adapter OTG for connecting USB sticks.

Buttons

Setting presence

Only if you set your presence can you use the CT Touch and process calls.

However, you can also make a call with the call button without setting your presence.

Membrane buttons

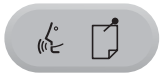
Button	Explanation
	Call button ■ Make a patient call. ■ Reassurance light on: Call has been initiated.
	Call button S ■ Make a configured call. ■ Reassurance light on: Call has been initiated.
	Presence button 1/2 ■ Set or cancel presence. ■ Switch CT Touch on or off with the presence. ■ Cancel calls that were made on this CT Touch with the presence. ■ LED on: Presence has been set.
	Call LED The LED indicates new calls, faults and messages.
	**Answer or store call** ■ Calls with speech facility: Answer the current call. ■ Calls without speech facility: Store the current call. ■ During answering: Store the current call. ■ Fault/message: Acknowledge the current fault/message. ■ If there is a new call during voice contact: Store the first call. ■ LED on: Call present.

Table 17: Membrane buttons and what they mean

Buttons on the display

Button	Explanation
	Answer ■ When a call with speech is indicated: Answer a call. ■ To end the current voice contact, press the button again. Emergency calls are stored automatically.
	Store call Please note: **STORE** is a list of stored calls

Table 18: Buttons on the display and what they mean

Button	Explanation
	Mute the microphone of the CT Touch and switch it on again
	PTT (Push to talk) When you answer a call or make voice contact with a room, the NCS Touch automatically switches the direction of speech between the people talking. ■ If loud noises or conversations disturb voice contact at your end or at the other end of the line, tap on the PTT button PTT **and hold it down.** ■ The CT Touch changes to PTT mode. To speak, press the PTT button PTT and hold it down. ■ When you release the PTT button again, the direction of speech changes. You can now hear the person at the other end of the line. ■ The PTT buttons PTT PTT indicates that you are in PTT mode. The symbol on the button indicates the direction of speech when you press the button. ■ Once the voice contact has been ended, the CT Touch reverts to automatic mode again.
	Voice contact
	Announcement
	Change volume You can change the volume during voice contact.
	Postpone call If a new call is signalled during voice contact, you can suppress signalling on the CT Touch using this button. This allows you to continue talking undisturbed. The call is not stored or cancelled. It is only signalled on this CT Touch. The call will be displayed again as soon as you have finished your voice contact.
	Telephone The CT Touch opens a field for entering the telephone number.
	Open menu

Table 18: Buttons on the display and what they mean (cont.)

Button	Explanation
ENTER	**Confirm change**
ESC	**Return to the next higher level in the menu**
PRES	**Open list of presences**
STORE	**Open list of stored calls**
RESET	**Resetting the list of rooms (depending on your system)** See here: 6.2.9 "Monitor room" on page 35 "Deactivating dialling in privacy for individual rooms" on page 37 "Changing the volume of the gong in the station or care group" on page 37
DOOR	**Open door** The display button DOOR appears *during voice contact* with the door. If you then tap on this button, you can open the door.
CLEAR	**Cancel timer for call line**

Table 18: Buttons on the display and what they mean (cont.)

Display

All events (calls, messages, faults, presences) are indicated on the display (see figure 10).

Fig. 10: Display of the CT Touch
1– Current calls
2– E – Emergency mode (flashing)
3– T – Timer
F – *Faults*
M – Messages
Tap on the symbol to open the list.
4– Frequently used lists and functions

A call is displayed in the call list in the following format:
SSSSSSSS #CCCCCC RRRRRR LLLLLLLL
The format is explained in table 19.

Symbols	Explanation
SSSSSSSS	Station/group (only if a call is stored)
CCCCCC	Call text
RRRRRR	Room
LLLLLLLL	Call line (e.g. bed)
#	A # sign before the call designation indicates that this call is a stored call that will be signalled again.

Table 19: Display format and explanation
The presentation in the fields depends on the settings of the call system.

Menu

Menu items hidden

The engineer can hide or display menu items. This means that some menu items may not be shown on your CT Touch.

Menu (function)	Submenu	Explanation
Announcement	**Station**	Tap on Announcement to make an announcement to all terminals in the station.
	General	Tap on All stations to make an announcement to all terminals of all stations.
	Presence 1/2	Tap on Presence 1 or 2 to make an announcement to all terminals in the station in which the nursing staff have set a presence.
	Care groups	Tap on Care groups to make an announcement to all terminals of a care group.
Combined Op.	**Interconnection**	The CT Touch indicates all interconnections of your station with other stations. Select the interconnections with the groups or stations that the CT Touch is to monitor.

Table 20: Menu structure

Menu (function)	Submenu	Explanation
Timer	**Select timer**	Select a timer for the various call lines in the room. Set the time after which the timer is to trigger a call.
Lists	**Presences**	The CT Touch indicates all presences of your station. You can select and make voice contact with presences with a speech facility.
	Messages	The CT Touch indicates all messages of your station.
	Stored calls	The CT Touch indicates all stored calls of your station. You can select and make voice contact with stored calls with a speech facility.
	Faults	The CT Touch indicates all faults of your station.
Call forwarding	**Volume**	Tap on Volume to change the volume for forwarded calls.
Voice contact	**Rooms and call terminals**	Select a room with speech with which you want to make voice contact.
Sounder	**Sounder**	Switch the call tone signal of the CT Touch on or off.
Monitor room	**Start monitoring**	Monitor sequentially all rooms of the room list without being heard in the room.
	Change room list	Add rooms that you want to monitor, or delete them from the list.
	Monitor presence	Determine whether rooms with a set presence are to be able to be monitored.
Management	**Care groups**	Change the assignment of a room to a care group.

Table 20: Menu structure (cont.)

Menu (function)	Submenu	Explanation
	Voice contact, dial in privacy	Change the dial in privacy setting for making voice contact with individual rooms.
	Voice contact, Gong volume	Change the volume of the gong when making voice contact with individual rooms.
	Change password	Change the password for single menu items.
	Time and date	Change the time and date.
	Contrast	Change the display contrast.
Service	**Node monitoring**	Here the service engineer can switch node monitoring for individual nodes on and off.
	Initialise password	Here the service engineer can cancel the customer password.
	Version	Here the service engineer can view technical data about the NCS Touch. LAN only: Press the service pin.
	Software update	Restart and update software.
	IP address (LAN only)	Check and change the IP address of the CT Touch LAN, the gateway, the subnet mask and the IP address of the TCP/IP gateway.

Table 20: Menu structure (cont.)

6.2.2 Use, general information

Touchscreen (touch-sensitive screen)

You can execute all functions of the CT Touch using the touchscreen. Please note:

- Do not use sharp objects to tap on commands on the touchscreen.
- Just tap gently on the commands on the touchscreen.
- Information on cleaning and disinfection can be found in section 10.5.2 “Cleaning and disinfection” on page 65.

Navigation in the menu

- Tap on the individual menu items to open or select a menu. To return to the next higher level in the menu, tap on **ESC**.
- To scroll in a menu, tap on the arrow keys on the right-hand side.
- If you want to change a value, tap on it to select it and then change it. Then tap on **ENTER** to confirm the change.
- If no button is pressed for a short while when navigating in the menu and changing values, the CT Touch changes back to the start window.
- The NCS Touch returns to the start window if you do not tap on the touchscreen for 20 seconds.

Password-protected menus

Some menus may be protected with a password.

If a password is allocated for a menu, enter the password and then tap on **ENTER**.

If you want to delete a character, tap on the arrow key on the right in the display.

If you want to enter figures, tap on **1..9**. Tap on **A..Z** to enter letters again.

6.2.3 Switching on the CT Touch

How to switch the CT Touch on

1 Press the presence button to set your presence and switch the CT Touch on.

Only if you have set your presence can you use the CT Touch.

An LED beside the presence button indicates the set presence.

6.2.4 Answering a call with speech facility

Extend talk time

If you talk so long that the maximum talk time is nearly reached, the CT Touch indicates this with a gong sound. To continue talking, tap on **YES** in response to the question.

New call while you are answering a call

The CT Touch indicates new calls in the display while you are in the process of answering a call. You have the following options:

- Put the new call on hold. To do so, tap on . The CT Touch then signals the new call as soon as you have finished the current call.
- End the current call and change to the new call. To do so, tap on the answer button. The CT Touch stores the old call.

Marker

Identification of a call with speech facility	Explanation
	Audio signal
	Indication of the call in the display
	Call LED
	Call with speech, also answer button in the display.

Table 21: Identification of a call with speech facility

How to answer a call with speech

1 Tap on the answer button to speak in hands-free mode.

2 To store the call, tap on **STORE**.

If your Medicall 800 system supports the store with presence function, the CT Touch shows a list of presences. Then tap on your presence. The call is stored.

Emergency calls are stored automatically after voice contact is ended.

3 Tap on the answer button to end the voice contact.

6.2.5 Processing a call without speech (e.g. WC call)

Marker

Identification of a call without speech facility	Explanation
	Audio signal
	Indication of the call in the display
	Call LED

Table 22: Identification of a call without speech facility

How to process a call without speech

1 To store the call, tap on **STORE**. For faults and messages, tap on **QUIT**.

If your Medicall 800 system supports the store with presence function, the CT Touch shows a list of presences. Then tap on your presence.

The call is stored. Faults and messages are acknowledged.

6.2.6 Voice contact

The CT Touch allows you not only to answer calls that are indicated on the display but also make voice contact with rooms or beds. You can make voice contact with:

- Rooms with and without presence
- Rooms with stored calls
- Individual beds

You can also make announcements to your whole Medicall 800 system, the station or individual care groups (see section 6.2.7 “Announcement” on page 34).

Extend talk time

If you talk so long that the maximum talk time is nearly reached, the CT Touch indicates this. Then tap on **YES** to continue talking.

New call while you are in voice contact

The CT Touch indicates new calls in the display while you are in the process of speaking. You have the following options:

- Put the new call on hold. To do so, tap on . The CT Touch then signals the new call as soon as you have ended the voice contact.
- End the voice contact and change to the new call. To do so, tap on the answer button.

How to make voice contact with a room with presence

1 Tap on **PRES** to select the list of presences.
Or tap on **MENU** to open the menu. Tap on the arrow keys until **Lists** appears and then tap on it. Tap on **Presences**.
2 Tap on the desired presence if it is not already marked.
3 Tap on to speak in hands-free mode.
4 Now speak to the room with the selected presence. The person in the room you are speaking to can talk to you immediately.
5 End the voice contact. Tap on .

How to make voice contact with a room with a stored call

1 Tap on **STORE** to open the menu.
2 Tap on the desired stored call if it is not already marked.
3 Tap on to speak in hands-free mode.
4 Now you can speak to the room with the selected call immediately.
5 End the voice contact. Tap on .

Making voice contact with a room by dialling in privacy

You can only make voice contact with a room without a call or presence by dialling in privacy. You can speak, but you cannot hear anything in the room as long as the patient does not answer the call using the call button.

The CT Touch indicates dial in privacy on the display: Please talk [dial in privacy].

Ask someone in the room to press the call button. You can then speak to the room.

How to make voice contact with a room of the station or interconnection

1 Tap on **MENU** to open the menu.
2 Tap on the arrow keys until **Voice contact** appears and then tap on it.
3 Tap on the desired room if it is not already marked.
The list shows all rooms that were assigned in the configuration.
If you want to search for a room or make voice contact with a room in another station, tap on **Search**. Then tap on the first characters of the room name and tap on **ENTER**. The CT Touch shows all rooms beginning with those letters.
The list shows all rooms that were assigned in the configuration.
If you want to delete a character, tap on the arrow key on the bottom right in the display.
If you want to enter figures, tap on **1..9**. Tap on **A..Z** to enter letters again.
4 If there are several beds in the room that can be spoken to, the CT Touch shows a list of the beds.
Tap on the bed number or the room number.
5 Tap on to speak in hands-free mode.
You can now speak to the desired room. If someone in the room presses the call button, he or she can answer your call.
6 End the voice contact. Tap on .

6.2.7 Announcement

How to make an announcement

1 Tap on **MENU** to open the menu.
2 Tap on **Announcements**.
3 Tap on the arrow keys until your desired announcement destination appears, and tap on it.
4 Tap on to speak in hands-free mode. Make your announcement.
5 End the announcement. Tap on .

6.2.8 Initiating a call

Press the call button or to make a call.

The CT Touch shows that a call has been made by the reassurance light next to the button.

6.2.9 Monitor room

The CT Touch enables you to monitor all rooms in the room list successively without you yourself being heard in the room. You can set whether rooms with presence are to be missed.

How to prepare for listening

1 Tap on **MENU** to open the menu.
2 Tap on the arrow keys until **Monitor room** appears and tap on it.
3 To change the room list, tap on **Change room list**.
Tap on the arrow keys until the desired room appears.
Tap on the station or a room to set it to ON (monitor) or OFF (not monitor). Then tap on **ENTER** to confirm the change. Next, tap on **ESC** to return to the next higher level.
If you want to reset the room list to the original value, tap on **RESET** (depending on your system).
4 If you also want to monitor rooms which have set presences, tap on **Monitor presence**. Then tap on the presence to set it to ON (monitor) or OFF (not monitor). Then tap on **ENTER** to confirm the change. Next, tap on **ESC** to return to the next higher level.
5 Tap on **ESC** to return to the next higher level.

How to monitor sequentially all rooms of the room list

1 Tap on **MENU** to open the menu.
2 Tap on the arrow keys until **Monitor room** appears and tap on it.
3 Tap on **Start monitoring** to monitor the rooms of the room list.
4 Tap on **STOP** to stop at a room and not move on to the next room.
5 Tap on to make voice contact with the room. You can only speak while you are tapping on the button.
6 Tap on **CONT.** to move between the rooms automatically again.
7 Finish monitoring. Tap on .

6.2.10 Acknowledging faults and messages

Fault messages must always be observed!

In the event of a fault, notify your head office or service department in accordance with your duty instructions.

The CT Touch can indicate not just calls, but faults and messages as well. The following faults are indicated:

- General node fault NodeFT
- Line fault in the room: CallFt

Additional faults or messages may appear on the display, depending on the settings of the call system.

How to acknowledge a fault or message

1 Tap on **QUIT** to acknowledge a fault or message. It will be stored in the list of faults and messages.
An "F" appears on the right in the start screen to indicate a fault.
An "M" appears on the right in the start screen to indicate a message.

6.2.11 Telephoning

If your CT Touch and call system are suitably configured, you can receive calls or call someone using the CT Touch just as you could with an ordinary telephone.

New call while you are telephoning

The CT Touch indicates new calls in the display while you are in the process of telephoning. You have the following options:

- Put the new call on hold. To do so, tap on **ENTER**. The CT Touch then signals the new call as soon as you have ended the call.
- End the call and change to the new call. To do so, tap on the answer button .

How to telephone with the CT Touch

1 Tap on the telephone symbol to select the telephone function.
2 Enter the telephone number. If you want to delete a character, tap on the arrow key on the right in the display.
To obtain a dial tone for an outside line, dial the same number as you would from other telephones in your telephone system.
If you have entered the wrong telephone number, tap on the answer button and start again.
3 When the called person answers, speak to him/her.

4 If a call is made during the call, this is indicated in the display.

Tap on **ENTER** to put the call on hold. Or end your call and receive the other call.

If you put the call on hold, the CT Touch signals the new call as soon as you have ended your call.

5 End your call. Tap on the answer button .

6.2.12 Timer

Select a timer for the various call lines in the room. Set the time after which the timer is to trigger a call.

How to set the timer

1 Tap on **MENU** to open the menu.
2 Tap on **Timer**.
3 Tap on the call line for which you want to set a timer.
4 Tap on + or – to set the hours and minutes for the timer. Then tap on **ENTER** to confirm the change. Next, tap on **ESC** to return to the next higher level.
5 If you want to cancel a timer, tap on **T** in the start window in order to display the activated timer. Tap on the timer and then tap on **CANCEL** to cancel the timer.
6 Tap on **ESC** to return to the next higher level.

6.2.13 Signal emergency mode

Emergency mode must always be heeded!

If the CT Touch indicates emergency mode, inform your head office or service department in accordance with your duty instructions.

6.2.14 Additional display buttons

Additional display buttons can be configured in the CT Touch (see figure 11, example). The possible functions are shown in table 23.

The texts and colours of the display buttons can be adapted to individual requirements. The display buttons on your CT Touch will therefore look different. Figure 11 shows an example of the configuration of the display buttons.

The CT Touch only shows the display buttons if no call is queued and no menu is open.

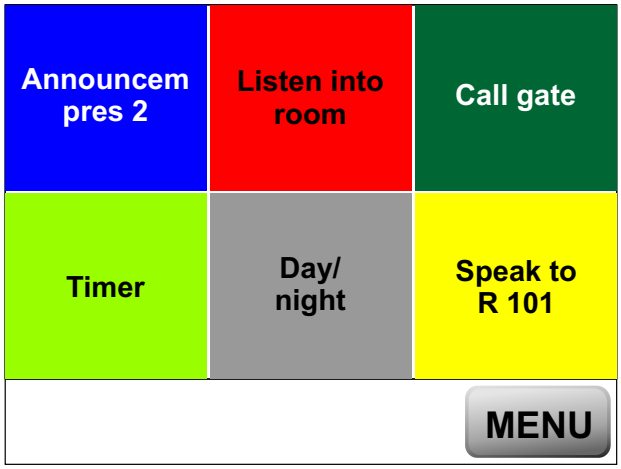


Fig. 11: Display of the CT Touch with display buttons (example)

Function of the display button	Explanation
Announcement	Click on the display button to make an immediate announcement to the set destination.
Speak to	Click on the display button to speak to the set room or bed immediately.
Telephone	Click on the display button to call the set telephone number.
Menu	Click on the display button to open the set submenu. You may need to enter your password to do so.

Table 23: Possible functions of the display buttons

6.2.15 Additional functions

How to open a door with the CT Touch

1 When the doorbell rings, the CT Touch indicates a door call.
2 Tap on the answer button to speak in hands-free mode.
The button **DOOR** appears in the display.
3 Now activate the door opener. Tap on **DOOR** to open the door.
The door opener is activated for 2 seconds.
4 End your call. Tap on the answer button .

How to change an interconnection

1 Tap on **MENU** to open the menu.
2 Tap on **Interconnection**.
3 Tap on the arrow keys until the desired interconnection appears.

4 Tap on the interconnection to set it to ON or OFF. Then tap on **ENTER** to confirm the change.

Your configuration may not allow you to change the interconnection, just view the current setting.

5 Next, tap on **ESC** to return to the next higher level.

How to check a list

1 Tap on **MENU** to open the menu.
2 Tap on the arrow keys until **Lists** appears and then tap on it.
3 Tap on the list that you want to check.
   – Presences
   – Messages
   – Stored calls (depending on how the CT Touch is configured, you can store or cancel calls again)
   – Faults
4 Tap on the arrow keys to display all elements of the list.

   You can answer or make voice contact with presences and stored calls with speech. Tap on the desired presence or the stored call.

   Tap on to speak in hands-free mode.

   Now speak to the selected room. The nursing staff or the patient in the called room can talk to you immediately.

   End the voice contact. Tap on the answer button .
5 Next, tap on **ESC** to return to the next higher level.

6.2.16 Settings for Medicall 800

How to assign a room to a care group

1 Tap on **MENU** to open the menu.
2 Tap on the arrow keys until **Management** appears and then tap on it.
3 Tap on **Care groups**.
4 Tap on the arrow keys until the room that you want to assign to another care group is displayed.
5 Keep tapping on the room until the CT Touch indicates the desired care group. Then tap on **ENTER** to confirm the change.

   WARNING: When you assign a room to another care group, it takes approx. 15 seconds for the room to apply the change. No calls can be made in this room during this time. Patients could be put at risk.
6 Next, tap on **ESC** to return to the next higher level.

Deactivating dialling in privacy for individual rooms

You can activate or deactivate dialling in privacy for individual rooms. Without dialling in privacy you can monitor a room without anyone in the room pressing the call button.

How to deactivate dialling in privacy for individual rooms

1 Tap on **MENU** to open the menu.
2 Tap on the arrow keys until **Management** appears and then tap on it.
3 Tap on **Voice contact** and then **Dial in privacy**.
4 Tap on the arrow keys until the room whose dial in privacy setting you want to change appears.
5 Tap on the room to set the dial in privacy setting to ON or OFF. Then tap on **ENTER** to confirm the change. Medicall 800 marks the room with an asterisk (depending on your system).
6 If you want to reset the room list to the original value, tap on **RESET** (depending on your system).
7 Next, tap on **ESC** to return to the next higher level.

Changing the call forwarding volume in the station or care group

You can change the volume of the call tone for call forwarding in the station or care group of the CT Touch.

How to change the call forwarding volume

1 Tap on **MENU** to open the menu.
2 Tap on **Call forwarding**.
3 Tap on the volume until the CT Touch indicates the desired volume. Then tap on **ENTER** to confirm the change.
4 Next, tap on **ESC** to return to the next higher level.

Changing the volume of the gong in the station or care group

You can change the gong volume when making voice contact with individual rooms of the station or care group of the CT Touch.

How to change the gong volume when making voice contact with individual rooms

1 Tap on **MENU** to open the menu.
2 Tap on the arrow keys until **Management** appears and then tap on it.
3 Tap on **Voice contact** and then **Gong volume**.
4 Tap on the arrow keys until the room whose gong volume you want to change is displayed.
5 Keep tapping on the room until the CT Touch indicates the desired gong volume. Then tap on **ENTER** to confirm the change.
6 If you want to reset the volumes in the rooms to the original value, tap on **RESET** (depending on your system).
7 Next, tap on **ESC** to return to the next higher level.

6.2.17 Settings for the CT Touch

How to change the volume of the CT Touch

1 Tap on while in voice contact. Then tap on the arrow keys to change the volume of the speaker.

2 Tap on again to store the changed volume.
The CT Touch stores the volume even when it is switched off.

Switching the call tone (sounder) on and off

The CT Touch gives a tone signal when it indicates a new call or the CT Touch is spoken to.

When you cancel the presence, the call tone will be switched on again.

How to switch the call tone (sounder) on or off

1 Tap on **MENU** to open the menu.
2 Tap on the arrow keys until **Sounder** appears and then tap on it.
3 Tap on Sounder to set the tone signal to ON or OFF. Then tap on **ENTER** to confirm the change.
When you cancel the presence, the call tone will be switched on again.
4 Next, tap on **ESC** to return to the next higher level.

How to change the time and date on the CT Touch

1 Tap on **MENU** to open the menu.
2 Tap on the arrow keys until **Management** appears and then tap on it.
3 Tap on the arrow keys until **Time and date** appears and tap on it.
4 Enter the time, and underneath it the date.
5 You can move from one position to the next using the arrow keys.
6 Tap on **ENTER** to confirm the change.
7 Next, tap on **ESC** to return to the next higher level.

How to change the display contrast

1 Tap on **MENU** to open the menu.
2 Tap on the arrow keys until **Management** appears and then tap on it.
3 Tap on the arrow keys until **Contrast** appears and then tap on it.
4 Tap on the arrow keys until the display is using the desired contrast. Or tap on the bar to increase or reduce the contrast.
5 Tap on **ENTER** to confirm the change.
6 Next, tap on **ESC** to return to the next higher level.

Changing passwords for menu items

When configuring the CT Touch using the ZETLON configuration software, you can specify whether a password is required for individual menus. In this case the user can open the menu only when he enters the password or the service password. You can change the password in the CT Touch.

Preset customer password
The preset customer password is empty.

How to change the customer password

1 Tap on **MENU** to open the menu.
2 Tap on the arrow keys until **Management** appears and then tap on it.
3 Tap on the arrow keys until **Change password** appears and then tap on it.
4 Enter the old password and tap on **ENTER** to confirm it.
If you want to delete a character, tap on the arrow key on the bottom right in the display.
If you want to enter figures, tap on **1..9**. Tap on **A..Z** to enter letters again.
5 Then enter the new password and tap on **ENTER** to confirm it.
The password can consist of 2 to 8 characters.
6 Then enter the new password again and tap on **ENTER** to confirm it.
The CT Touch has now accepted the new password.
7 Next, tap on **ESC** to return to the next higher level.

6.2.18 Service

CAUTION
This information is for service personnel only.
If you use these functions without authorisation, you could deactivate the automatic monitoring of devices of the Medicall 800 system and put patients at risk.

Settings of the CT Touch may be overwritten in the event of a software update.
You can use the CT Touch to change settings that affect other nodes, such as changing assigned care groups.
These changes may be overwritten when you update the CT Touch software. They will be lost.

All service functions are protected by the service password

All service functions are protected by the service password.

This service password is known only to service technicians.

How to start up the CT Touch

1 Press the presence button to switch the CT Touch on.
2 Tap on **MENU** to open the menu.
3 Tap on the arrow keys until **Service** appears and then tap on it.
4 Enter the password for the CT Touch and tap on **ENTER**.

   If you want to delete a character, tap on the arrow key on the bottom right in the display.

   If you want to enter figures, tap on **1..9**. Tap on **A..Z** to enter letters again.
5 Tap on the various menu items to set or check them:
   – **Node monitoring**: Tap on the individual nodes to activate or deactivate monitoring. Then tap on **ENTER** to confirm the change.
   – **Initialise password**: Tap on **ENTER** to reset the password for the Management menu. No password is set when delivered.
   – **Version**: In this window you can display the hardware and software versions.

     Srv.Pin (CT Touch LAN only): Tap on **Srv.Pin** if you want to initiate the service pin.
   – **Software update**: If you want to update the software of the CT Touch, tap on **Software update** and then press both presence buttons immediately. Do not release the two presence buttons until the CT Touch restarts. The CT Touch then looks for the software on a connected USB stick and uses it to update the software of the CT Touch.

     If you press the presence buttons too late or not for long enough, the CT Touch will restart.
   – **IP address** (CT Touch LAN only): Change the IP address if there are special requirements or if you want to preconfigure a CT Touch LAN before later replacing it. You can change these IP addresses:

     IP address of the CT Touch LAN

     IP address of the gateway (router)

     Subnet mask of the CT Touch LAN

     IP address of the TCP/IP gateway
6 Next, press **ESC** to return to the next higher level.

Technical data

- Power consumption: 260 mA when idle, max. 460 mA (with 4 sockets, 4 patient's handsets with speech, 4 radio adapters, call and reset panel, pull cord panel)
- Environmental conditions and EMC compliant with DIN VDE 0834, part 2, environmental class 1
  – Ambient temperature: 0 to 40 °C
  – Relative humidity: max. 85 %, non-precipitating
- IP code: IP 40
- Colour: traffic white (RAL 9016)
- Material (housing and membrane keypad): ABS plastic, antimicrobial
- Weight: 257 g
- Dimensions (WxHxD) 95 x 218 x 21 mm

6.3 PCAIM audio interface module

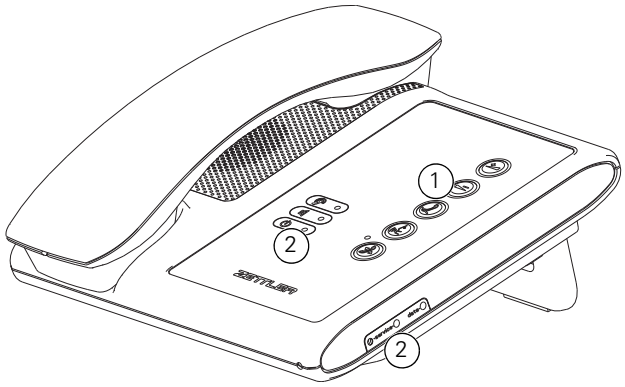


Fig. 12: PCAIM audio interface module
1– Buttons
2– Service pin, service and data LEDs

LEDs, sounders

LED	Explanation
Sounder	Call LED The LED flashes and the sounder sounds at the rhythm of the call with the highest call category (call, emergency call, alarm).
	Audio LED ■ On: Audio link for listening and speaking. ■ Off: No audio link. ■ Flashing: Speaking or listening only in one direction, e.g. for announcements, with the microphone switched off or in "Push To Talk" (PTT) mode.

Table 24: Meaning of the LEDs of the PCAIM audio interface module

LED	Explanation
Sounder	Power-on LED ■ LED on: PCAIM audio interface module is switched on, connection to mediGraph. ■ LED off: PCAIM audio interface module without current. ■ LED flashing and sounder buzzing: emergency mode. No connection to mediGraph or mediGraph is switched off. To switch the sounder off, lift the handset briefly and then replace it.
	Call with speech facility ■ On: Call with speech facility. You can answer the call. ■ Off: No call with speech facility present.
(on the side of the PCAIM audio interface module)	Service LED ■ Flashing or always on: PCAIM audio interface module fault. Please contact your technical support. Note: The service LED flashes briefly when the PCAIM audio interface module is first connected. This is normal. ■ Off: Normal mode.
(on the side of the PCAIM audio interface module)	Data LED ■ Flashing: Data being transmitted. This is normal.

Table 24: Meaning of the LEDs of the PCAIM audio interface module (cont.)

Buttons

Button	Explanation
	VOLUME buttons You can adjust the volume during an audio link in hands-free mode or using the handset.
	MUTE button Press the MUTE button briefly to switch the microphone off. Press the MUTE button again to switch the microphone back on.
	PTT (Push To Talk) button When you answer a call, the PCAIM audio interface module switches automatically between the people who are speaking. If noise or conversations disturb voice contact at your end or at the other end of the line, press and hold down this button. The PCAIM audio interface module switches to PTT mode, so that you can speak only when you press this button. Release the button again to listen to the person at the other end of the line. The Audio LED indicates whether you are in this mode. The PCAIM audio interface module returns to automatic mode after the voice communication. You can use this button in hands-free mode and with the handset.
	ANSWER button If the LED indicates a call with speech facility: ■ Press the ANSWER button to speak in hands-free mode. To end the current call, press the button again. Emergency calls are stored automatically. ■ Pick the handset up to speak using the handset. When you replace the handset, the current answer is terminated. The ANSWER button has no function if the call does not have speech facility.

Table 25: Meaning of the buttons of the PCAIM audio interface module

6.4 Other answer stations in systems with speech

This section explains how to use these answer stations (see figure 13):

- Communication terminal with display (CT) for roomwise speech
- Communication terminal with display (CT) for bedwise speech
- Universal terminal with display and handset, often configured as a main or group answer station (ANS)

Section 6.4.2 "Display indication" on page 42 explains how to answer and cancel or store calls.

Other possible functions are described in section 6.4.6 "Additional functions" on page 43.

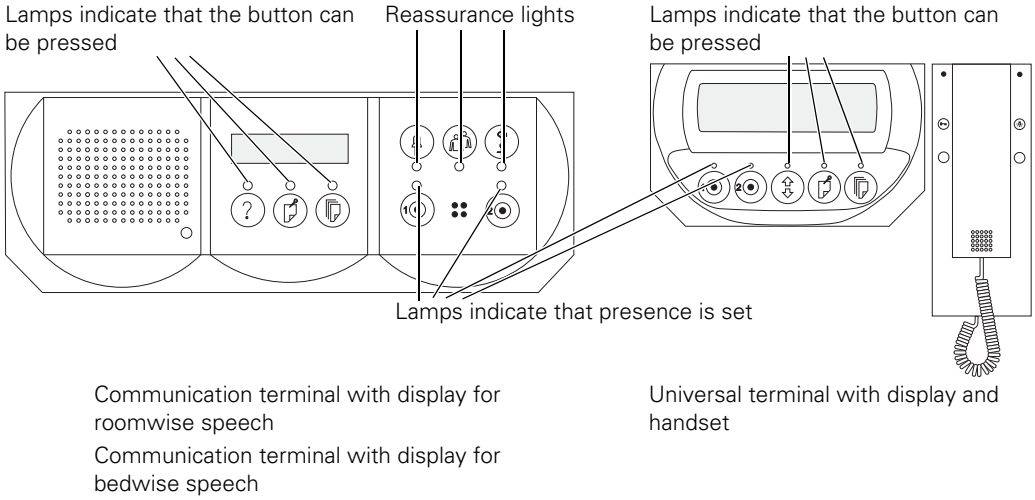

Lamps indicate that the button can be pressed
Reassurance lights
Lamps indicate that the button can be pressed
Lamps indicate that presence is set
Communication terminal with display for roomwise speech
Communication terminal with display for bedwise speech
Universal terminal with display and handset

Fig. 13: Answer stations in systems with speech

6.4.1 Button functions

The function of the buttons and the associated indication lamps is described in Table 26.

Button	Explanation	Lamp function
	Presence buttons: ■ Set and cancel presence ■ Switch display on and off ■ Cancel call in the room	Presence switched on
	Call button	Call made
	Staff call button	Staff call made
	Doctor emergency call button	Doctor emergency call made

Table 26: Meaning of the buttons and lamps

Button	Explanation	Lamp function
	Answer button on CT: ■ If there is a call: Answer ■ While answering: Cancel Only in CT for roomwise speech: ■ No call: Jump to the function menu ■ In the function menu: 1 level back	Call can be answered or cancelled
	Function button (on the answer station) ■ Jump to the function menu ■ In the function menu: 1 level back	Operation possible
	Scroll button For the function menu and lists	Scrolling possible

Table 26: Meaning of the buttons and lamps (cont.)

Button	Explanation	Lamp function
	Store button ■ Calls without speech facility: Store ■ During answering: Store ■ In the function menu: Confirm selection	Store or confirmation possible
Handset on the answer station	■ If there is a call: Pick up = answer ■ While answering: Hang up = cancel	Answering possible

Table 26: Meaning of the buttons and lamps (cont.)

6.4.2 Display indication

All calls, messages and faults are indicated in 4 character fields on the two-line display as shown in Table 27 on page 42 or 28 on page 42.

SSSSSSSS CCCCCC*
RRRRRR LLLLLLLL¯

Table 27: Display indication

CCCCCCCCCC *
SSSSS RRRRRR LL¯

Table 28: Display indication

The characters are explained in Table 29.

Character	Explanation
SSSSSSSS	Designation of the station
CCCCCC	Designation of the call (call text)
RRRRRR	Designation of the room (room number)
LLLLLLLL	Designation of the call line (e.g. bed)
*	Identification for further calls
↓	You can use the scroll button to scroll on to the next page.
■	When idle, if there is no call, fault or message in the system (station), a square flashes and the message "No call" appears.

Table 29: Meaning of the characters in the display

The representation in the character fields depends on the system settings.

6.4.3 Processing calls

Processing a call with speech facility

Step	Procedure
Marker	■ ANS: Lamp in speech device lit. ■ CT: Lamps in answer button and store button lit.
Answer a call	■ ANS: Pick up handset. ■ CT: Press answer button . ■ Indication <SPE> <STO>: You can speak.
Exit	■ ANS: Replace handset, call is cancelled. ■ Or: Press store button and hang up, call is stored. ■ CT: Press answer button , call is cancelled. ■ Or: Press store button , call is stored.

Table 30: Processing a call with speech facility

Processing a call without speech facility (WC call)

Step	Procedure
Marker	Only the lamp of the store button is lit.
Process call	Press store button , call is stored.

Table 31: Processing a call without speech facility

Several calls at the same time

■ Identification: * at the end of the 1st display line, the lamp of the scroll button is lit.

The most important call at the time is displayed and can be answered or stored.

You can also use the scroll button to scroll through the list of calls and process the call that is displayed at the time (see sections "Processing a call with speech facility" on page 42 or "Processing a call without speech facility (WC call)" on page 42).

6.4.4 Processing faults and messages

Take note of faults

Take note of any faults that are displayed!

Inform your head office or service department in accordance with your duty instructions.

In addition to calls, Medicall 800 also presents faults and messages on the displays. Table 32 shows a list of the faults that are presented on the displays.

Additional faults or messages may appear on the LCD display depending on the system settings.

The room number is displayed as well as the fault.

Fault	Presentation on the display
General node fault	NodeFT or NF or Flt
Line fault in room	CallFt or cF or Flt
Pager system fault	PagrFt or PF or Flt
Patient's handset fault	PH Ft or PH or Flt Check that the patient's handset has been properly connected. Then check whether a call can be made. If a call cannot be made, exchange the patient's handset

Table 32: Faults that are shown on the displays

How to process a fault or message

1 With presence set, press the store button or QUIT.

This acknowledges the fault or message:

– An F appears on the right in the top line if there is a fault.
– An M appears on the right in the top line if there is a message.
– The fault or message is moved to the list of faults or messages and is no longer signalled.
– If the cause of the fault or message has been rectified, the fault or message is cleared from the list.

6.4.5 Signal emergency mode

Emergency mode must always be heeded!

If the answer station indicates emergency mode, inform your head office or service department in accordance with your duty instructions.

6.4.6 Additional functions

Functions only available in CTs with roomwise or bedwise speech if there is no call

In contrast to the universal terminal, you can only use these functions at the communication terminal with roomwise or bedwise speech if there is no call.

These buttons have a different meaning in the event of a call.

The communication terminals and answer stations do not support all functions. See also Table 33.

Function	Universal terminal	CT for roomwise speech	CT for bedwise speech	CT Touch
Interconnection	x	x		x
Announcement	x	x		x
Call forwarding	x			x
Lists	x	x		x
Voice contact with presence	x	x	x	x
Display contrast	x	x		x

Table 33: Functions of the universal terminal and the communication terminals

Depending on the answer station, "function button" means the following:

- In a communication terminal with display, answer button
- In a universal terminal function button

How to change an interconnection

1 With presence set, press the function button / .
The menu list appears.
2 If necessary, keep pressing the scroll button until **Interconnection** appears. Press the store button to confirm the selection.
3 Keep pressing the scroll button until the desired interconnection appears. Press the store button to confirm the selection.
4 Press the function button / twice to close the menu and return the answer station to idle.

How to make an announcement

1 With presence set, press the function button / .
The menu list appears.
2 Keep pressing the scroll button until **Announcement** appears. Press the store button to confirm the selection.
3 Keep pressing the scroll button until the desired announcement target appears.

4 To make the announcement:
   – ANS: Pick up the handset and speak.
   – CT: Press the function button and speak.
5 To end the announcement:
   – ANS: Replace the handset .
   – CT: Press the function button .

How to set the volume of call forwarding for the station

1 With presence set, press the function button / .
   The menu list appears.
2 Keep pressing the scroll button until **Call forwarding** appears. Press the store button to confirm the selection.
3 Keep pressing the scroll button until the desired volume appears.
4 Press the function button / twice to close the menu and return the answer station to idle.

How to check one of the lists

1 With presence set, press the function button / .
   The menu list appears.
2 Keep pressing the scroll button until **Lists** appears. Press the store button to confirm the selection.
3 Keep pressing the scroll button until the desired list appears. The lists are as follows:
   – Presences
   – Messages
   – Acknowledgements (stored calls)
   – Faults

   Press the store button to confirm the selection.
4 Press the scroll button to scroll through the list.
5 Press the function button / three times to close the menu and return the answer station to idle.

How to make voice contact with a presence

1 With presence set, press the scroll button so that the presence list appears.
2 Keep pressing the scroll button until the desired presence appears.
3 To make voice contact with the presence:
   – ANS: Pick up the handset and speak.
   – CT: Press the function button and speak.
4 To end the conversation: Replace the handset or press the function button / , or press the presence button.

How to change the display contrast

1 With presence set, press the function button / .
   The menu list appears.
2 Keep pressing the scroll button until **Display Contrast** appears. Press the store button to confirm the selection.
3 Keep pressing the scroll button until the desired contrast appears.
4 Press the function button / twice to close the menu and return the answer station to idle.

6.5 Displays in systems without speech

This section explains how to use the displays (see figure 14):

- Display S1
- Display S2
- Universal display, often configured as a station or group display

Section 6.5.3 “Processing calls” on page 46 explains how to cancel and store calls on the display. Other possible functions are described in section 6.5.6 “Additional functions” on page 46.

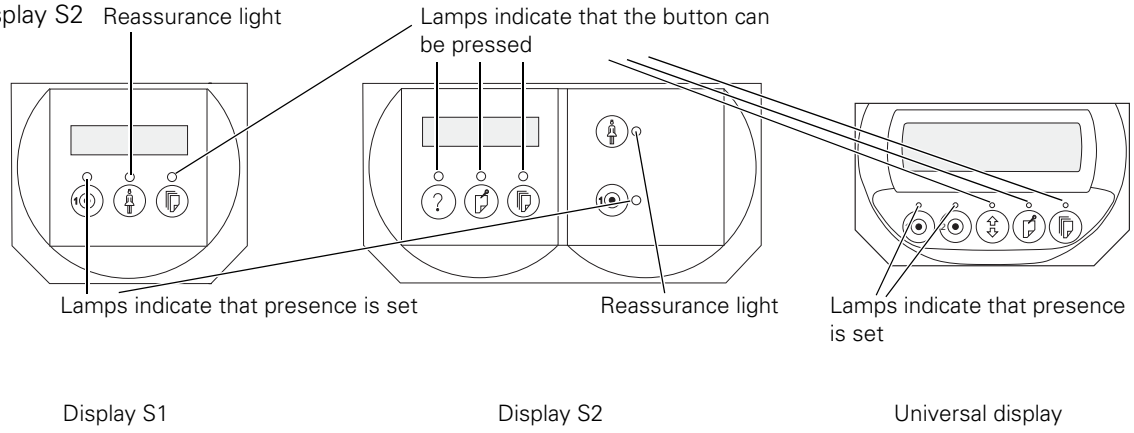


Fig. 14: Displays in systems without speech

6.5.1 Button functions

The function of the buttons of the displays and the associated indication lamps is described in Table 34.

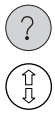
Button	Explanation	Lamp function
	Presence buttons: ■ Set and cancel presence ■ Switch display on and off ■ Cancel call in the room	Presence switched on
	Call button	Call made
 or	Function button: ■ Jump to the function menu ■ In the function menu: One level back	Operation possible
	Scroll button for function menu and lists	Scrolling possible
	Store button ■ If there is a call: Store ■ In the function menu: Confirm selection	Store or confirmation possible

Table 34: Buttons of the displays

6.5.2 Display indication

All calls, messages and faults are indicated in 4 character fields on the two-line display as shown in Table 35 or 36.

```
SSSSSSSS CCCCCC*
RRRRRR LLLLLLLL¯
```

Table 35: Display indication

```
CCCCCCCCCC    *
SSSSS RRRRRR LL¯
```

Table 36: Display indication

The characters are explained in Table 37.

Character	Explanation
SSSSSSSS	Designation of the station
CCCCCC	Designation of the call (call text)
RRRRRR	Designation of the room (room number)
LLLLLLLL	Designation of the call line (e.g. bed)
*	Identification for further calls
↓	You can use the scroll button to scroll on to the next page.
■	When idle, if there is no call, fault or message in the system (station), a square flashes and the message "No call" appears.

Table 37: Meaning of the characters in the display

The representation in the character fields depends on the system settings.

6.5.3 Processing calls

Universal display and display S2

On the universal display and display S2 you can store calls as follows.

To do so press the store button. The call is stored.

If there are several calls (identification: the lamp of the scroll button is lit) you can use the scroll button to scroll through the list of current calls and store the call being shown at the time with the store button.

Display S1

On the display S1 you can store calls as follows:

Press the scroll button and hold it down. Then press the presence button: The call is stored.

If there are several calls (identification: the lamp of the scroll button is lit), you can scroll through the list of current calls with the scroll button. When the call that you want to store is displayed, press the scroll button and hold it down. Then press the presence button: The call is stored.

6.5.4 Processing faults and messages

Take note of faults

Take note of any faults that are displayed!

Inform your head office or service department in accordance with your duty instructions.

In addition to calls, Medicall 800 also presents faults and messages on the displays. Table 38 shows a list of the faults that are presented on the displays.

Additional faults or messages may appear on the LCD display depending on the system settings.

The room number is displayed as well as the fault.

Fault	Presentation on the display
General node fault	NodeFT or NF or Flt
Line fault in room	CallFt or cF or Flt
Pager system fault	PagrFt or PF or Flt
Patient's handset fault	PH Ft or PH or Flt Check that the patient's handset has been properly connected. Then check whether a call can be made. If a call cannot be made, exchange the patient's handset

Table 38: Faults that are shown on the displays

How to process a fault or message

1 With presence set, press the store button.
This acknowledges the fault or message:
- An F appears on the right in the top line if there is a fault.
- An M appears on the right in the top line if there is a message.
- The fault or message is moved to the list of faults or messages and is no longer signalled.
- If the cause of the fault or message has been rectified, the fault or message is cleared from the list.

6.5.5 Signal emergency mode

Emergency mode must always be heeded!

If the answer station indicates emergency mode, inform your head office or service department in accordance with your duty instructions.

6.5.6 Additional functions

The display S1 is used in a different way to the display S2 and the universal display.

6.5.7 Display S2, universal display

Depending on the display, "function button" means the following:

- In the display S2, function button ?
- In the universal display, function button

How to change an interconnection

1 With presence set, press the function button ? / ⇕.
The menu list appears.
2 If necessary, keep pressing the scroll button until **Interconnection** appears. Press the store button to confirm the selection.
3 Keep pressing the scroll button until the desired interconnection appears. Press the store button to confirm the selection.
4 Press the function button ? / ⇕ twice to close the menu and return the display to idle.

How to set the volume of call forwarding for the station

1 With presence set, press the function button ? / ⇕.
The menu list appears.
2 Keep pressing the scroll button until **Call forwarding** appears. Press the store button to confirm the selection.
3 Keep pressing the scroll button until the desired volume appears. Press the store button to confirm the selection.
4 Press the function button ? / ⇕ twice to close the menu and return the display to idle.

How to check one of the lists

1 With presence set, press the function button ? / ⇕.
The menu list appears.
2 Keep pressing the scroll button until **Lists** appears. Press the store button to confirm the selection.
3 Keep pressing the scroll button until the desired list appears. The lists are as follows:
– Presences
– Messages
– Stored calls
– Faults
Press the store button to confirm the selection.
4 Press the scroll button to scroll through the list.
5 Press the function button ? / ⇕ three times to close the menu and return the display to idle.

How to change the display contrast

1 With presence set, press the function button ? / ⇕.
The menu list appears.
2 Keep pressing the scroll button until **Display Contrast** appears. Press the store button to confirm the selection.
3 Keep pressing the scroll button until the desired contrast (1 to 16) appears.
4 Press the function button ? / ⇕ twice to close the menu and return the display to idle.

6.5.8 Display S1

How to change an interconnection

1 With presence set, press the scroll button and hold it down. Then press the call button.
The menu list appears.
2 If necessary, keep pressing the scroll button until **Interconnection** appears. Press the scroll button, hold it down and press the presence button to confirm the selection.
3 Keep pressing the scroll button until the desired interconnection appears. Press the scroll button, hold it down and press the presence button to confirm the selection.
4 To close the menu and return the display to idle: Press the scroll button, hold it down and press the call button. Release the buttons and press the scroll button again, hold it down and press the call button.

How to check one of the lists

1 With presence set, press the scroll button and hold it down. Then press the call button.
The menu list appears.
2 Keep pressing the scroll button until **Lists** appears. Press the scroll button, hold it down and press the presence button to confirm the selection.
3 Keep pressing the scroll button until the desired list appears. The lists are as follows:
– Presences
– Messages
– Stored calls
– Faults
Press the scroll button, hold it down and press the presence button to confirm the selection.
4 Press the scroll button to scroll through the list.
5 To close the menu and return the display to idle: Press the scroll button, hold it down and press the call button. Release the buttons and press the scroll button again, hold it down and press the call button.

How to change the display contrast

1 With presence set, press the scroll button and hold it down. Then press the call button .
The menu list appears.

2 Keep pressing the scroll button until **Display Contrast** appears. Press the scroll button , hold it down and press the presence button to confirm the selection.

3 To increase the contrast by 1, press the scroll button , hold it down and press the presence button . Then release the buttons. Repeat this until the desired contrast (1 to 16) appears.

4 To close the menu and return the display to idle: Press the scroll button , hold it down and press the call button . Release the buttons and press the scroll button again, hold it down and press the call button .

7 Other components

7.1 Room electronics with RFID

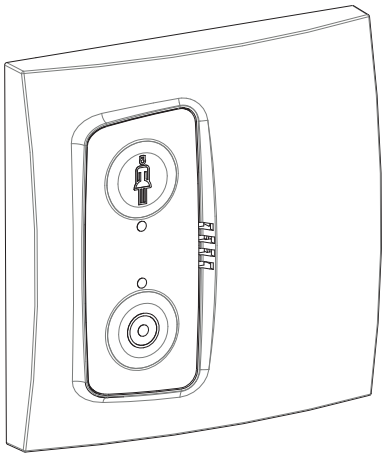


Fig. 15: Room electronics with RFID

The room electronics with RFID has 1 call button, 1 presence button and an RFID antenna.

- Call button
  - Call with and without presence
- Presence button

  The presence button can be programmed. You have the following options:
  - Standard (presence on/off)
  - Only switch presence off
  - Button has no function
- RFID antenna

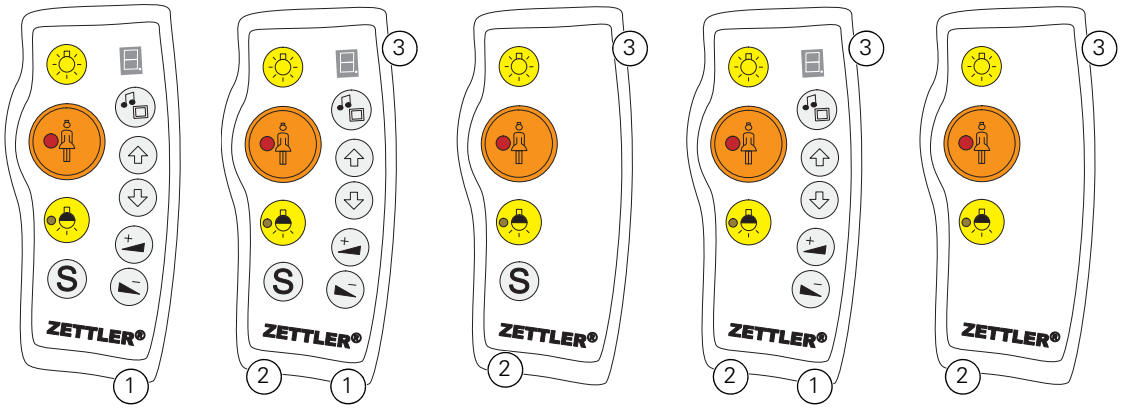
  With the RFID antenna you can set presence 1 or 2 or register a person (doctor, service) so that the person is logged with mediLog. Hold the RFID tag 2 to 4 cm from the room electronics unit to register the tag.

  If you then register yourself on another room electronics unit in another room, you will be automatically deregistered in the first room.

  On registration you receive these signals:
  - 1 peep: tag is registered.
  - 2 peeps: tag is deregistered.
  - In the presence category, the reassurance light of the presence button is activated/deactivated.

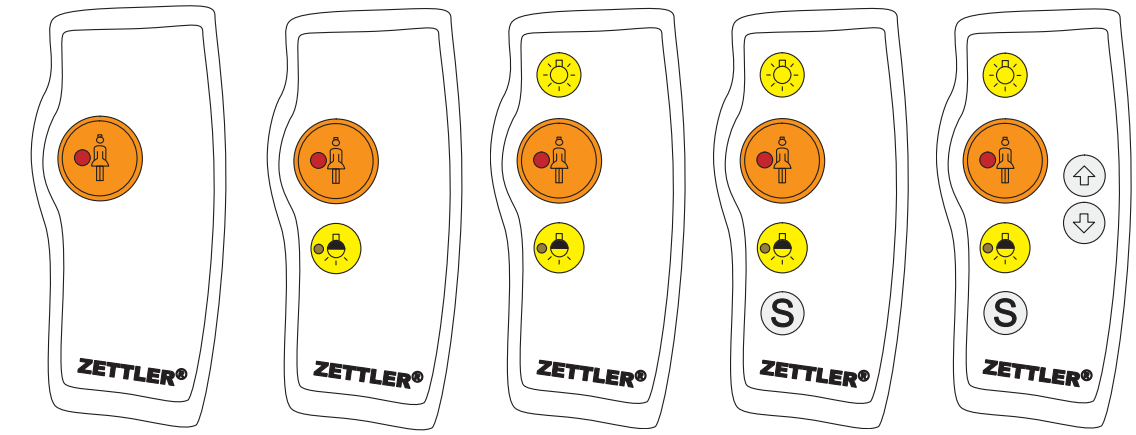
7.2 Patient's handsets

Operation of the patient's handsets is identical with and without speech. Patient's handsets with speech offer additional functions for speaking with nursing staff and for controlling televisions and radios (see figures 16 and 17).



125.5701, 127.5700 | 125.5711, 127.5710, 127.5750 | 125.5721, 125.5721XL, 127.5720, 127.5760 | 125.5731, 127.5730, 127.5770 | 125.5741, 127.5740, 127.5780

Fig. 16: Patient's handsets with speech (125.5701, 127.5700 only listening with headphones)
1– Headphone socket
2– Microphone
3– Speaker on rear



125.5601, 125.5601XL, 127.5600, 127.5600IP, 127.5600XL, 127.6120IP | 125.5611, 127.5610 | 125.5621, 125.5621XL, 127.5620, 127.5620IP, 127.5620XL | 127.5630 | 125.5641, 127.5640

Fig. 17: Patient's handsets without speech

Call

Button	Explanation
	Call nursing staff ■ LED lights up red – reassurance light if you have made a call. ■ LED flashes – nursing staff have noted your call. ■ LED lights up faintly – locating light.
	Service call Example for service, baby, etc. Depends on the configuration of the Medicall 800 system.

Table 39: Meaning of the call buttons of the patient's handsets

Light

Button	Explanation
	Light
	Reading light LED lights up faintly – locating light.

Table 40: Meaning of the light buttons of the patient's handsets

Speak/listen

If your device supports voice contact, the nursing staff can call you back when you make a call and you can answer. Only patient's handsets with the stock code numbers 125.57xx and 127.57xx.

Function	Explanation
Speak	Speak after being called by the nursing staff. ■ Handsfree: patient's handset in the retaining bracket. With patient's handsets with orientation dependent speech, even when it is hanging down vertically. ■ As with telephone handset: pick up the patient's handset.
Listen (also TV/radio)	■ Headphones connected: Headphones on, speaker off ■ Headphones disconnected: Speaker on. ■ patient's handset in the retaining bracket: speaker loud. ■ Patient's handset in the hand as with telephone handset: speaker quiet.

Table 41: Speaking and listening using patient's handsets with speech

Television/radio/function

Button	Explanation
	Change functions Use this button to change between the individual functions: ■ Radio: Numbers 1 to 5 ■ Television: Minus – ■ Function: F Only television with multifunction control, additional device required: Switch off television: Hold function button down for more than two seconds. ■ Off: Full stop .
	Up/down keys In radio mode (1 to 5): Change programme. In TV mode (minus "–", only television with multifunction control): ■ Switch on: Press briefly on the Up or the Down button. ■ Change programme Press Up/Down buttons to change between the programmes. In function mode (F): Control additional functions, e.g. roller shutters or head section of the bed up/down.
	Volume

Table 42: Meaning of the buttons of the patient's handsets for television, radio and other functions

Safety information

WARNING

Trip hazard. Someone could trip over cables lying loose on the floor and injure themselves.

Lay the connecting cable for the patient's handset so that no one can step on it or trip over it. Make sure that nothing is placed on top of the cable.

WARNING

Danger that the patient will strangle himself with the connecting cable and choke.

If the patient is asleep or unconscious, insert the patient's handset into the retaining bracket or secure it with the blanket clip.

WARNING

Danger that a wireless device or mobile will interfere with the patient's handset so that it does not work.

If you are carrying a wireless device or mobile phone, keep the safe distance from the patient's handset.

How to install the patient's handset

1 Check whether the patient's handset is damaged. Only put it into operation if you do not see any damage.

If the patient's handset is damaged, do not plug it into the socket. Inform the responsible engineer.

2 Hang the patient's handset in the VL Retaining bracket, stock code number 125.5802.

Alternatively, secure it with the VL Blanket clip, stock code number 125.5830.

3 Insert the connecting cable of the patient's handset into the jack of the socket.

4 Check that the patient's handset is working properly: Make a call using the patient's handset. The call must be signalled at the reassurance light of the patient's handset and at the overdoor light to which the socket is connected.

If the call or alarm is not signalled, check that the sockets are located correctly and try again.

If the fault persists, do not put the patient's handset into service. Remove the patient's handset from the socket. Inform the responsible engineer.

How to trigger a call

1 To make a call, press the red button on the patient's handset.

Protection range

Patient's handsets marked !A! on the rear may only be used in protection range A.

All other patient's handsets of Medicall 800 may be used in protection ranges A and B.

7.3 Call indication on the corridor display

The information in this section applies for systems with and without speech.

If there are corridor displays, all calls, faults and messages are indicated on them. They contain information about the call text and call line.

If there are several calls at the same time, they are displayed one after the other (the list of calls is scrolled through automatically).

Emergency calls are presented flashing.

If the system is configured with a wireless clock or is connected to a PC with the mediLog software, the corridor display can show the date, the time and the text "no call".

7.3.1 Signal emergency mode

Emergency mode must always be heeded!

If the corridor display indicates emergency mode, inform your head office or service department in accordance with your duty instructions.

7.4 Adapter for medical device

7.4.1 Description

Adapter for electrical isolation of the patient's environment (medical electrical device or patient's handset) from Medicall 800. The adapter prevents dangerous voltages from being discharged through the patient, putting him at risk.

The following call components can be connected to the adapter:

- Alarm output of a medical electrical device
- VL Patient's handset, 1 call button, only for adapter for medical device, electrically isolated 125.6120IP/ 127.6120IP

Only connect the adapter to sockets of a Medicall 800 system.

The adapter is used in hospitals, spa and rehabilitation clinics and in retirement and nursing homes and similar institutions. The adapter must be prepared by a call systems specialist (technician trained as an electronic engineer or similar and with training in Medicall 800). After training, the adapter, medical electrical device and the patient's handset can be connected to the socket by:

- Nursing staff (qualified nurses, care assistants, etc.)
- Doctors (who have completed their training)

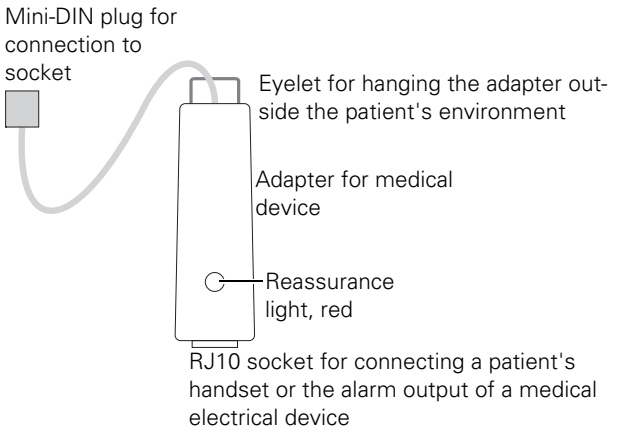

Mini-DIN plug for connection to socket
Eyelet for hanging the adapter outside the patient's environment
Adapter for medical device
Reassurance light, red
RJ10 socket for connecting a patient's handset or the alarm output of a medical electrical device

Fig. 18: Adapter for medical device, with mini-DIN plug, electrically isolated

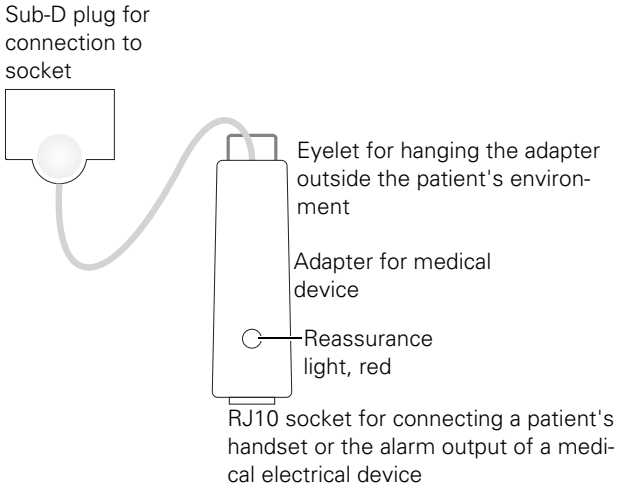

Sub-D plug for connection to socket
Eyelet for hanging the adapter outside the patient's environment
Adapter for medical device
Reassurance light, red
RJ10 socket for connecting a patient's handset or the alarm output of a medical electrical device

Fig. 19: Adapter for medical device, with Sub-D plug, electrically isolated

Safety information

WARNING

Danger that the alarm will not be noticed.

Use of the adapter does not replace the regulations for staff and the duty of supervision when operating medical electrical devices.

The adapter in conjunction with the call system only serves the additional purpose of accelerating call or alarm tracking.

Please also note the information for the medical electrical device.

WARNING

Danger that the alarm of a second adapter in the same room will not be noticed.

If the acoustic signal of call forwarding indicates a second alarm in the same room, check the cause. If necessary, see to other patients first.

WARNING

Danger that the adapter will not function after repair. Calls or alarms from patients may not be forwarded. Patients could be put at risk.

Do not attempt to repair the adapter yourself. Do not put the adapter into operation. Instead, inform the responsible engineer.

You can only make and exchange the cable connecting the medical electrical device to the adapter.

WARNING

Trip hazard. Someone could trip over cables lying loose on the floor and injure themselves.

Lay the connecting cable to the medical electrical device or patient's handset so that no one can step on it or trip over it. Make sure that nothing is placed on top of the cable.

WARNING

Danger that a wireless device or mobile will interfere with the adapter so that it does not work.

If you are carrying a wireless device or mobile phone, keep the safe distance from the adapter.

7.4.2 Installation and connection

Mini-DIN

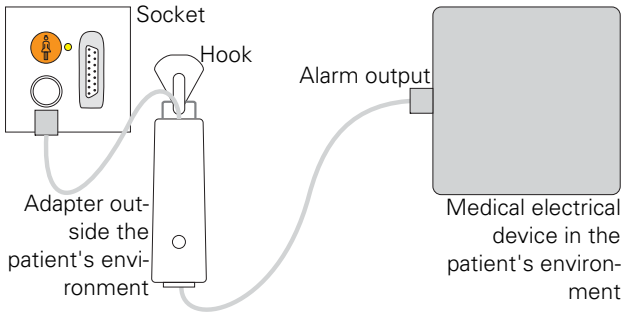


Fig. 20: Block diagram for connecting a medical electrical device

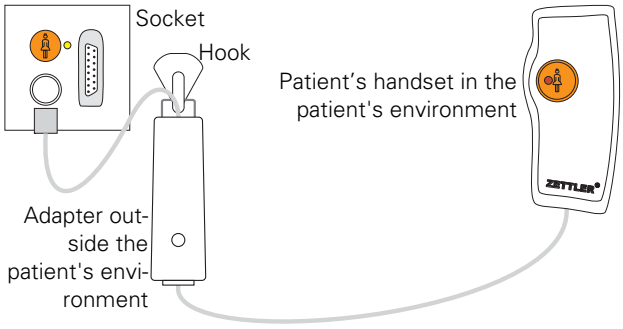


Fig. 21: Block diagram for connection of the patient's handset to the adapter

Sub-D

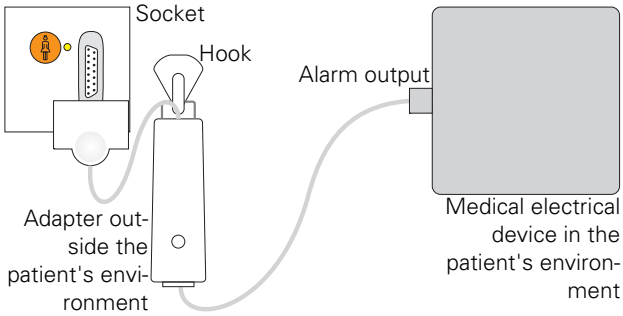


Fig. 22: Block diagram for connecting a medical electrical device

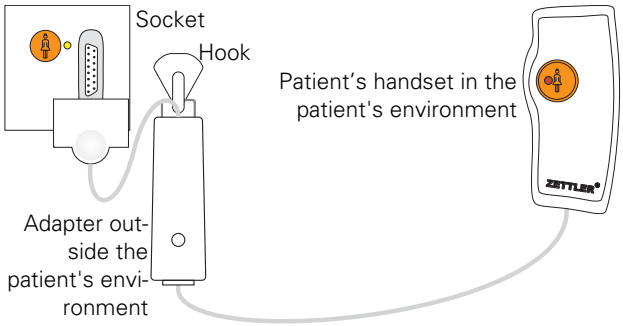


Fig. 23: Block diagram for connection of the patient's handset to the adapter

How to connect the adapter

1 Before connecting, check the cable of the adapter and all components for damage.

If a cable is damaged, do not attach the cable. Inform the responsible engineer.

2 To ensure that the room electronics does not trigger any fault, first connect the medical electrical device or the patient's handset to the RJ10 socket of the adapter.

3 Only then do you connect the mini-DIN or Sub-D plug of the adapter to the socket.

4 Always check that the adapter is working properly when you connect the adapter to a socket:

– Make a call using the patient's handset. The call must be signalled at the reassurance light of the patient's handset and of the adapter and at the overdoor light to which the socket is connected.

– Trigger a test alarm on the medical electrical device. The alarm must be signalled at the reassurance light of the adapter and at the overdoor light to which the socket is connected.

In the event of a plug removed call, check that the sockets are located properly and then try again.

If the fault persists, do not put the adapter into service. Remove the adapter from the socket. Inform the responsible engineer.

How to remove the adapter

1 Set the presence so that a plug removed call is not made on removal.

2 First disconnect the adapter for medical device.

3 Then disconnect all components and devices from the adapter.

7.4.3 Symbols on the adapter

Symbol	Explanation
	Warning.
	Follow documentation.
	Do not dispose of the adapter in household waste. Take the adapter for proper disposal.

Table 43: Explanation of the symbols on the adapter

8 Pager system and DECT

8.1 Systems with pagers)

In systems with pagers ("wireless pager system") additional information about the calls is provided through the "pagers" of the pager system. How this information is signalled on the pagers depends on the make of the pager system and on your specific settings.

You must therefore read the corresponding user guide!

Switch presence on/off on the pager system also

Even if a pager system is connected to your system, you still need to make sure you switch the presence on and off!

See section 4 "Presence" on page 8.

8.2 Systems with cordless telephones (DECT)

The information in this section applies only for systems with speech.

In systems to which a DECT PABX system is connected, additional information about the calls is also provided through the cordless telephones of the PABX system. You can also use it to speak with the calling patient and cancel and store calls.

Operation depends on the PABX system used. This means that only general user information can be given.

The following information applies for all DECT PABX systems. However, the operation of specific systems may be very simplified.

You must therefore read the corresponding user guide!

Switch presence on/off on the DECT also

Even if a DECT PABX system is connected to your system, you still need to make sure you switch the presence on and off!

See section 4 "Presence" on page 8.

8.2.1 Operation

TI-NUM

TI-NUM is the call number of the telephone interface.

The connection between the Medicall 800 system and the PABX system is by means of the telephone interface, which has its own call number.

How to retrieve the most important call in the station

1 Dial the TI-NUM and wait for the tone.
2 Press 0#. The connection is established. You can speak.
3 To exit, press # before hanging up. The connection is ended and the call is cancelled.
If you want to store the call, press 1# before hanging up.

How to retrieve the most important call in a group

1 Dial the TI-NUM and wait for the tone.
2 Enter the number of the group (1 to 5).
3 Press #. The connection is established, you can speak.
4 To exit, press # before hanging up. The connection is ended and the call is cancelled.
If you want to store the call, press 1# before hanging up.

How to speak to a room

1 Dial the TI-NUM and wait for the tone.
2 Enter the number of the desired room.
3 Press #. The connection is established. You can speak.
4 To exit, press # before hanging up. The connection is ended.

How to make an announcement to a station

1 Dial the TI-NUM and wait for the tone.
2 Press *#. The connection is established. You can speak.
3 To exit, press # before hanging up. The connection is ended.

How to make an announcement to a group

1 Dial the TI-NUM and wait for the tone.
2 Enter the number of the group (1 to 5).
3 Press *#. The connection is established. You can speak.
4 To exit, press # before hanging up. The connection is ended.

9 Examples of use

9.2 “Examples of systems without speech” on page 58 and 9.3 “Examples of systems with speech” on page 61 give examples of usage that occurs frequently in practice.

9.1 Notes to the examples

Display texts

Because of the many different ways of presentation offered by Medicall 800, various texts are just represented as symbols. The characters are explained in Table 44.

Character	Explanation
SSSSSSSS	Station or care group (up to 8 characters). Example: Surg 1
CCCCCC	Call (call text).
RRRRRR	Room or room number (up to 6 characters). Example: Rm 318
LLLLLLLL	Call line (up to 8 characters). Example: Bed 1
GGGGGGGGG	Indication of interconnection with other groups or stations (up to 9 characters). Example: G1+G2
*	Identification for further calls
-	You can use the scroll button to scroll on to the next page.
n	In idle mode a flashing square appears if there is no fault or message in the Medicall 800 system.

Table 44: Meaning of the characters in the display

Symbols

In the examples symbols are used for the optical and acoustic signalling. An explanation is given in Table 45.

Symbol	Explanation
	Symbol for acoustic call forwarding (sounder), see Table 4 on page 11
	Symbol for constant light
	Symbol for flashing light, see Table 4 on page 11

Table 45: Meaning of the symbols in the examples

9.2 Examples of systems without speech

Action display	Action room	Display		Overdoor light				Station/group signal light		Bed call button reassurance light	WC call button reassurance light	Presence panel
				white	red	green	yellow	1	2			
	Patient call P1	SSSSSSS Pat RRRRRR LLLLLLL			⊗			⊗		⊗		
Store call (opt.)		No call 13:00 GGGGGGGG				⊗				⊗		⊗
	Set presence	SSSSSSS pres. 1 RRRRRR LLLLLLL				⊗				⊗		⊗
	Cancel presence	No call 13:00 GGGGGGGG										

Table 46: System without speech, patient call
Patient makes patient call
Nursing staff store call on the display
Nursing staff go to the call line and switch presence on
Nursing staff switch presence off and leave room, stored call is deleted

Action display	Action room	Display		Overdoor light				Station/group signal light		Bed call button reassurance light	WC call button reassurance light	Presence panel
				white	red	green	yellow	1	2			
	Patient call P1	SSSSSSSS Pat RRRRRR LLLLLLLL										
Store call (opt.)		No call 13:00 GGGGGGGG										
	Set presence	SSSSSSSS pres. 1 RRRRRR LLLLLLLL										
	Nurse emergency call	SSSSSSSS nurse RRRRRR LLLLLLLL										
	Confirm presence	SSSSSSSS pres. 1 RRRRRR LLLLLLLL										
	Cancel presence	No call 13:00 GGGGGGGG										

Table 47: System without speech, patient call with subsequent nurse call
Patient makes patient call
Nursing staff store call on the display
Nursing staff go to the call line and switch presence on
Nursing staff need assistance and make a nurse emergency call while with the patient
2nd nurse immediately goes to call line and confirms presence
Both nurses switch presence off and leave the room

Action display	Action room	Display		Overdoor light				Station/group signal light		Bed call button reassurance light	WC call button reassurance light	Presence panel
				white	red	green	yellow	1	2			
	WC call	SSSSSSS WC call RRRRRR LLLLLLLL		⊗	●			⊗			⊗	
Store call (opt.)		No call 13:00 GGGGGGGG		⊗		⊓●					⊓⊗	⊓⊗
	Set presence	SSSSSSS pres. 1 RRRRRR LLLLLLLL		⊗		●					⊓⊗	⊗
	Press WC cancel button	SSSSSSS pres. 1 RRRRRR LLLLLLLL				●						⊗
	Cancel presence	No call 13:00 GGGGGGGG										

Table 48: System without speech, WC call
Patient makes WC call
Nursing staff store call on the display
Nursing staff go to the call line and switch presence on
Nursing staff press cancel button in WC
Nursing staff switch presence off and leave room, stored call is deleted

9.3 Examples of systems with speech

Action answer station	Action room	Answer station, communication terminal		Overdoor light				Station/group signal light		Bed call button reassurance light	WC call button reassurance light	Presence panel
				white	red	green	yellow	1	2			
	Patient call P1	SSSSSSS Pat RRRRRR LLLLLLL										
Answer a call		RRRRRR LLLLLLL < SPK > < STR? >										
Store call (opt.)		No call 13:00 GGGGGGG										
	Set presence	SSSSSSS pres. 1 RRRRRR LLLLLLL										
	Cancel presence	No call 13:00 GGGGGGG										

Table 49: System with speech, patient call
Patient makes patient call
Nursing staff answer call
Nursing staff store call on answer station
Nursing staff go to the call line and switch presence on
Nursing staff switch presence off and leave room, stored call is deleted

Action answer station	Action room	Answer station, communication terminal		Overdoor light				Station/group signal light		Bed call button reassurance light	WC call button reassurance light	Presence panel
				white	red	green	yellow	1	2			
	Patient call P1	SSSSSSSS Pat RRRRRR LLLLLLLL										
Answer a call		RRRRRR LLLLLLLL < SPK > < STR ?>										
Store call (opt.)		No call 13:00 GGGGGGGG										
	Set presence	SSSSSSSS Pres.1 RRRRRR LLLLLLLL										
	Nurse emergency call	SSSSSSSS Nurse RRRRRR LLLLLLLL										
Answer nurse emergency call		RRRRRR LLLLLLLL < SPK > < STR ?>										
Store nurse emergency call		No call 13:02 GGGGGGGG										
	Confirm presence	SSSSSSSS Pres.1 RRRRRR LLLLLLLL										
	Cancel presence	No call 13:00 GGGGGGGG										

Table 50: System with speech, patient call with subsequent nurse emergency call
Patient makes patient call. Nursing staff answer call. Nursing staff store call on answer station. Nursing staff go to the call line and switch presence on.
Nursing staff need assistance and make a nurse emergency call while with the patient.
2nd nurse answers the call. 2nd nurse stores the nurse emergency call. 2nd nurse goes to the call line and confirms presence.
Both nurses switch presence off and leave the room.

Action answer station	Action room	Answer station, communication terminal		Overdoor light				Station/group signal light		Bed call button reassurance light	WC call button reassurance light	Presence panel
				white	red	green	yellow	1	2			
	WC call	SSSSSSS WC call RRRRRR LLLLLLLL		⊗	●			⊗			⊗	
Store call (opt.)		No call 13:00 GGGGGGGG		⊗		⊗					⊗	⊗
	Set presence	SSSSSSS pres. 1 RRRRRR LLLLLLLL		⊗		●					⊗	⊗
	Press WC cancel button	SSSSSSS pres. 1 RRRRRR LLLLLLLL				●						⊗
	Cancel presence	No call 13:00 GGGGGGGG										

Table 51: System with speech, WC call (as there is no speech facility in the WC, this example corresponds to Table 48 on page 60)
Patient makes WC call
Nursing staff store call on the display
Nursing staff go to the call line and switch presence on
Nursing staff press cancel button in WC
Nursing staff switch presence off and leave room, stored call is deleted

10 Maintenance and servicing

Some points need to be observed in the installation, operation and servicing of a call system. Additional information can be found in the DIN VDE 0834 standard for call systems in hospitals, nursing homes and similar institutions.

National legislation must be observed in countries in which this standard is not applicable.

10.1 Operation and repairs

The owner of a call system in hospitals, nursing homes, nursing stations and similar institutions or penal institutions must himself be an "instructed person" within the meaning of DIN VDE 0834 or commission an instructed person. He must ensure the following:

- Personnel must be made familiar with the operation and use of the call system through training or the like. Suitable training must be provided and repeated at regular intervals.
- Personnel must report any indications of impairment in the permanent readiness or irregularities in the functions and inspections must be carried out.
- Non-system devices and equipment (e.g. medical electrical devices) may only be connected by personnel who have been given special training in this procedure.
- Plug-in devices for making calls, e.g. patient's handsets, must be checked after every insertion to ensure that their call-making functionality is still perfect.
- Personnel must report any irregularities in functions, all failures and all faults.
- Any maintenance or modification that is required on the call system must be instigated immediately by the operator or by a person commissioned and instructed by him.
- Call systems must be maintained by specialists in call systems. In the event of faults, call systems must be inspected immediately and repaired by specialists in call systems.

  The timely and proper performance of this work must be arranged between the operator and the maintenance firm, for instance in the form of a maintenance contract. The maintenance firm must commence rectification of the faults no later than 24 hours after notification.
- In all cases in which part or all of the call system is switched off, the operator must provide some other means of monitoring the rooms affected until such time as the call system is switched on again.
- Modifications to the call system may only be carried out by specialists in call systems. The desired condition of the call system must be restored immediately after every modification and a modification check must be carried out (see section "Check after modification" on page 65).
- All fault incidents in the call system must be recorded in an operating log.

10.2 Servicing

Responsibility for maintenance rests with the owner of a call system. He must ensure that the call system is duly and properly maintained at the right time. He can transfer this responsibility to a specialist firm. The necessary spare parts logistics and availability should be ensured.

Necessary inspections:

- Inspections must be carried out 4 times a year at roughly the same intervals of time. The following must be checked for proper functioning:
  - Call buttons and movable components for making calls that are intended for use by patients
  - Lights and acoustic signal transmitters
  - Energy supply
- A more comprehensive inspection must be carried out once a year. The following must be checked for proper functioning:
  - All other components for making calls, cancelling calls and signalling presence
  - All other display devices
  - All equipment for answering calls
- Maintenance work must be carried out to the manufacturer's instructions, but at least once a year. It also includes:
  - Upkeep of system parts
  - Replacement of elements with a limited life (e.g. batteries)
  - Adjustment
  - Resetting and calibration of elements and components
  - Check of the UPS

10.3 Inspections

Acceptance inspection

An acceptance inspection must be carried out by an expert in call systems before the call system is commissioned. It comprises:

- A visual and functional check of the call system and the components
- A check of the completeness of the documents required for operation of the call system
- An acceptance report signed by the person responsible for the acceptance inspection.

Acceptance inspections of partial sections of the call system may be carried out as building progresses.

If you are using a structured network with LAN cabling, this must satisfy the requirements of Link Class D (transmission class) under DIN EN 50173/ISO/IEC 11801 and be certified.

Visual check

The visual check covers the expert installation and mounting of the components, their proper condition and a comparison with technical literature. The area of use and protection area must be taken into account (see section 11 “Glossary” on page 66).

Functional check

The functional check covers the proper interaction between the system parts.

Check after modification

In the event of modifications to the call system or its scope, an acceptance inspection must be carried out as a modification check (see section “Acceptance inspection”). It may be limited to the parts affected by the modification if it can be safely assumed that the modifications have no effect on the rest of the call system.

10.4 Disposal

Do not throw the components and used batteries in the household waste.

Take the components and batteries for proper disposal.

10.5 Protection range, cleaning and disinfection

10.5.1 Protection range

Patient's handsets marked !A! on the rear may only be used in protection range A.

All other devices of Medicall 800 may be used in protection ranges A and B.

For information on the protection range, see section “Protection range (pursuant to DIN VDE 0834)” on page 67.

10.5.2 Cleaning and disinfection

NCS Touch and communication terminal Touch

- Cleaning

  When cleaning displays, use only agents that contain alcohol (methanol, ethanol, propanol) as an active ingredient. Dilute as specified by the manufacturer.

  Do not use any other cleaning agents to clean the displays, e.g. containing acids, lyes, peroxide compounds, quaternary ammonium compounds, aldehydes, organic solvents or abrasive mechanical cleaning agents.

  Liquids must not be allowed to penetrate the display. You must therefore use only slightly moist wipes.
- Disinfection

  Disinfect the Communication Terminal Touch with wipe disinfection. Use only agents that contain alcohol (methanol, ethanol, propanol). Use the concentrations specified by the manufacturer.

  Do not use any other disinfectants, e.g. containing acids, lyes, peroxide compounds, quaternary ammonium compounds, aldehydes or organic solvents.

  Liquids must not be allowed to penetrate the display. You must therefore use only slightly moist wipes.

Other components

- Cleaning

  Use commercial household cleaners when cleaning components of Medicall 800. Dilute as specified by the manufacturer. Do not use any abrasive mechanical cleaning agents.

  Liquids must not be allowed to penetrate the display. You must therefore use only slightly moist wipes.
- Disinfection

  All components of Medicall 800 and VarioLine can be disinfected by wipe disinfection. Use the concentrations specified by the manufacturer. Do not use any disinfectants that contain active chlorine.

  Liquids must not be allowed to penetrate the display. You must therefore use only slightly moist wipes.

11 Glossary

Answer terminal or answer station
Component for answering and processing calls. Display: Answer station without speech.

Area
Unit in a call system.

Area of use (pursuant to DIN VDE 0834)
An area of use is the area for which a call system is used as intended. The key factor here is the response of the call system in the event of a malfunction.

Area of use A: In this area of use the caller or other people may be put in danger if a call is not signalled because of a fault or faults are not identified in time. This is the case if help is supposed to be obtained through the call system.

Area of use B: In this area of use the caller or other people may be put in particular danger if a call is not signalled because of a fault or faults are not identified in time. This applies to the following applications, among others:

- Intensive care stations
- Alerting a resuscitation team
- Connection of electric medical equipment
- Call systems in prisons and similar institutions if the supervisory personnel are to be able to trigger emergency calls.
- Applications in which a fault in transmission of the call presents a comparable hazard for the caller or other people.

Call forwarding
Medicall 800 forwards calls to all rooms in the station which have a set presence. At answer stations with speech the nursing staff can answer the call. In answer stations without speech an audio signal draws attention to the call; you can store this call.

This way the nursing staff get the call even if they are not in the care support point.

Call system
System by which people can be called or sought or by which information can be communicated.

Care group
A care group consists of several rooms within a station that are monitored jointly from one answer station. Up to 5 care groups can be created for each station.

Discretion
With all answer stations the nursing staff can speak to a room without a call or a presence only with discretion. They can speak, but they cannot hear anything in the room as long as the patient does not answer the call using the call button.

Display
Answer station without speech.

Dormophon
See section “Noise monitoring”.

Gong
Attention signal of the loudspeaker:

- Before an announcement
- When the nursing staff answer a call or speak to a room.

This means that the person being spoken to knows that someone wants to speak to him. He cannot be monitored without noticing.

Group answer station
Parallel answer station at which the nursing staff can process and answer all calls of a care group.

Interconnection
You can interconnect several stations or care groups to form a larger entity. This enables the nursing staff at a main answer station to process all calls of the individual stations or care groups.

LON bus
System bus for Medicall 800.

Main answer station
Also station display (without speech).

Component in the station room for answering and processing calls of a station. It could be one of a number of different components, e.g. NCS Touch, GNCS, universal display.

Noise monitoring
Noise monitoring allows a call to be triggered in the event of a noise. If presence is set an emergency call is triggered. The sensitivity of noise monitoring can be adjusted.

The following device has this function:

- VL Sound monitor, stock code number 125.5550

Pager system

See section "Pager system" on page 67

Pager system

Pager system System by which short text messages can be transmitted wirelessly to people equipped with a pager.

Protection range (pursuant to DIN VDE 0834)

A protection range is the area in which certain measures protecting against hazardous shock currents must be taken where equipment is used as intended. Of key importance here is the electrically conductive connection of people with earth potential or other plant and machinery.

Protection range A: In this area there is no electrically conductive connection of people with earth potential or other plant and machinery. This means that no special protective measures are required.

Protection range B: In this area persons may be at increased risk if they have an electrically conductive connection with earth potential or electrical equipment. Additional protective measures are required in this area. Call panels in bathrooms, for instance, belong to protection class B.

REBS

Abbreviation for Room electronic bedwise speech. Room electronics (communication terminal) for bedwise speech.

Station call forwarding

Medicall 800 forwards a call which the nursing staff were unable to process within a defined period of time to any nodes, other stations or care groups.

Station display

See section "Main answer station".

Station

A station is a unit within a Medicall 800 network. Data are first distributed to all nodes within a station.

Depending on the setting, data are also transmitted to other stations if station call forwarding or interconnection is set.

A station always contains a main answer station for answering and processing calls.

UPS

Uninterruptible power supply for emergency power. A battery takes over the power supply for a limited period of time.

Vital call

In the vital call function in mediGraph the patient must make a call within a certain period of time. mediGraph marks the room until he makes a call. At the end of this time, mediGraph makes a call.

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